**Roland**®

GENERAL MIDI 2

XV-5080

128 VOICES 8× EXPANSION / SAMPLE PLAYBACK

OWNER'S MANUAL

Thank you, and congratulations on your choice of the Roland XV-5080.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUC-TIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3), and "IMPORTANT NOTES" (p. 5). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's Manual and Quick Start should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.
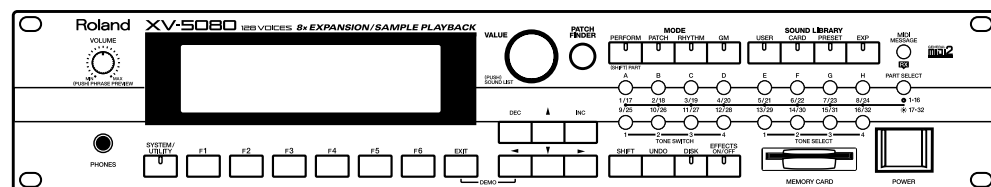
Notation Used in This Owner's Manual

To make operation procedures easy to understand, the following notation system is adopted:

Characters and numbers in square brackets [ ] indicate buttons on the front panel. For example, [PATCH] represents the PATCH button and [ENTER] the ENTER button.

An asterisk (*) at the beginning of a paragraph indicates a note or precaution.
(p. **) refers to pages within the manual.

*   *The display screens printed in this owner's manual are based on the factory settings.*
    However, please be aware that in some cases they may differ from the actual factory settings.

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INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Never use with a cart, stand, tripod, bracket, or table except as specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
⊘	The ⊘ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
⬤	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

-------------------------------- **ALWAYS OBSERVE THE FOLLOWING** --------------------------------

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.

....

- Do not open or perform any internal modifications on the unit. (The only exception would be where this manual provides specific instructions which should be followed in order to put in place user-installable options; see QuickStart (p. 3, p. 34), Reference Manual (p. 181).)

....

- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

....

- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.

....

- This unit should be used only with a rack or stand that is recommended by Roland.

....

- When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.

....

⚠WARNING

- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit.

....

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

....

- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.

....

- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

....

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

....

- Protect the unit from strong impact.
  (Do not drop it!)

....

⚠WARNING

- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

....

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

....

- Always turn the unit off and unplug the power cord (QuickStart p. 8) before attempting installation of the circuit board (SRX series, SR-JV80 series ; QuickStart p. 3).

⚠CAUTION

- The unit should be located so that its location or position does not interfere with its proper ventilation.

....

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.

....

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.

....

- Never climb on top of, nor place heavy objects on the unit.

....

- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.

....

- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.

....

- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (QuickStart p. 12).

....

- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

....

- Install only the specified circuit board(s) (SRX series, SR-JV80 series). Remove only the specified screws (Quick Start p. 4).

....

- Should you remove the optical connector caps, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.

....

IMPORTANT NOTES

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up Memory Card, or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display. Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To have the battery replaced, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

  "Battery Low"

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory, a memory card.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory, a memory card, or another MIDI device (e.g., a sequencer) once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- The display screens printed in this owner's manual are based on the factory settings. However, please be aware that in some cases they may differ from the actual factory settings.

Before Using Cards

Using DATA Cards

- Carefully insert the DATA card all the way in—until it is firmly in place.
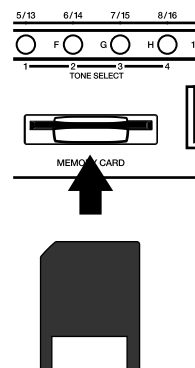
- Insert memory cards with the gold contacts facing downwards.
- Never touch the terminals of the DATA card. Also, avoid getting the terminals dirty.

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Features

128-Voice Polyphony and 32-Part Multitimbrality

The XV-5080 is a 32-part multitimbral sound generator that produces up to 128 simultaneous polyphonic voices. It provides ample polyphony, even with Patches containing multiple Tones.

Create Amazingly Expressive Tones

With Patches containing four stereo Tones, as well as four-Tone instruments in Rhythm Sets—you can use up to a total of eight wave types—the XV-5080 takes you the next step beyond Roland's previous generation of JV-Series modules, providing even more precise control and allowing you to create lusher, more expressive sounds.

Powerful Internal Effects, Including COSM Effects

The internal effects have been completely rethought and improved. The reverb, the XV-5080's most central effect, incorporates the high-quality SRV-3030 DSP, allowing the instrument itself to give great spatial definition with superior, clear sound.

In addition, the XV-5080 features Multi-effects (MFX) with 90 kinds of effects, including RSS and 3D Delay, Slicer, and Formant Filter. What's more, the XV-5080 also features a variety of combinations of different effects, such as the Guitar Amp Simulator, made possible with COSM technology; Guitar Multi, which lets you get just the right guitar, bass, and keyboard sounds; Bass Multi, and Keyboard Multi, all of which let you create even more powerful sounds. Furthermore, you can use three different MFX systems when in Performance mode, and use each MFX on any Part you select.

On top of all this, each output is supplied with two-band EQ.

Sample Playback Function Lets You Add Waves

By expanding with SIMM (72-pin, 64/32/16 MB) memory modules, you can add the sample playback function to the XV-5080. With a CD-ROM drive connected to the SCSI connector, you can then load Roland's S-700 Series and other CD-ROM libraries. You of course can perform using existing sampled tones just as they are, but you can also synthesize internal Patches into a single Wave. Additionally, since you can also save the wave data of loaded samples to SmartMedia cards, you can easily take pre-existing samples for use in your live performances, even with no CD-ROM drives or hard disks connected.

Digital Out and R-BUS for Complete Compatibility with Digital Systems

The XV-5080's output systems not only include eight parallel analog outs that can also be used as four stereo pairs, but also S/P DIF digital outputs (optical and coaxial) and R-BUS digital out as well. Using R-BUS lets you simply output eight analog outputs as eight-channel digital audio. And you can connect the XV-5080 to Roland's VM-3100Pro or VM-7000 Series with just one cable.

Furthermore, the XV-5080 includes a Word Clock In as a standard feature.

Supports General MIDI system Level 2

The XV-5080 provides a mode compatible with General MIDI System Level 2, the standard format for desktop music (DTM) systems. The upwardly compatible General MIDI 2 standards pick up where the original General MIDI standard left off, offering enhanced expressive capabilities and even greater compatibility. You can play back commercially available General MIDI-compatible song data.

Greater Expansion Possibilities with the New-Format Wave Expansion Boards

The XV-5080 accepts up to four of Roland's new-format Wave Expansion Boards (SRX Series). In addition, you can add four previous-generation Wave Expansion Boards (SR-JV Series). All of this provides you unprecedented power in creating sounds from a massive amount of waveform data.

Featuring the Patch Finder and Phrase Preview Functions

The XV-5080 provides a Patch Finder function that allows you to quickly find Patches of a specified type or category.

Press the XV-5080's [PHRASE PREVIEW] button to preview the selected Patch with a musically appropriate Phrase.

Registering a Patch in the FAVORITE LIST

You can keep the Patches that you like to use all in one place by registering them on the Favorite List. The FAVORITE LIST gives you immediate access to your favorite Patches, whether they are in the XV-5080 itself, on Wave Expansion Boards, or on memory cards. You can register up to 64 Patches in this list.

Panel Descriptions

Front Panel
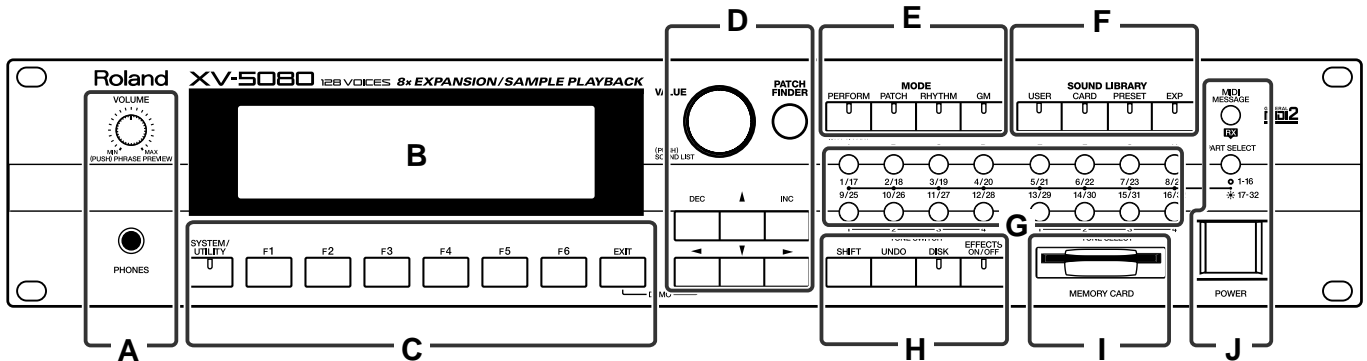
A

VOLUME Knob (PHRASE PREVIEW)

This adjusts the volume from the A (MIX) OUTPUT jacks and PHONES jacks. The volume from the OUTPUT B, C and D jacks cannot be adjusted.

You can press the knob to listen to the XV-5080 without using any external devices. (Phrase Preview function; p. 16)

PHONES Jack

Headphones are plugged in here. (Quick Start; p. 11)

B

Display

The display presents a variety of information about the operation being performed.

C

[SYSTEM/UTILITY]

The screen displayed switches each time the button is pressed, rotating through the System mode, Utility mode, and original screens.

System Mode (the indicator is lit)

This allows you to make settings that affect the entire XV-5080.

Utility Mode (the indicator is blinking)

This allows you to perform operations such as saving, copying, initializing, transferring data, write-protecting data, and factory reset operations.

[F1]–[F6]

The functions of these buttons change depending on the selected page.

The function name is shown in the display.

When " 🗗 " appears next to the function name in the lower row of the screen, it means that there are one or more further pages. Press the corresponding [F1]-[F6] buttons to switch to such pages.

[EXIT]

Press this button when you wish to return to the basic display, or to cancel an operation before executing it.

Hold [EXIT] and press [◀] to hear the demo songs. (Quick Start; p. 14)

D

VALUE Dial (SOUND LIST)

Use this to modify the values of a setting. If you hold down [SHIFT] as you turn the VALUE dial, the parameter's value will change by larger increments.

Press this dial in Patch/Rhythm Set mode to display a list showing the collection of your favorite sounds. (p. 207)

Pressing the VALUE dial while " 🔲 " appears in the upper right of the screen displays the list for the screen.

[PATCH FINDER]

You can select a Patch using the Patch Finder function. (p. 19)

[INC]/[DEC] (Increment/Decrement)

Use these to modify the values of a setting. If you keep on holding down one button while pressing the other, the value change accelerates. If you press one of these buttons while holding down [SHIFT], the value will change in bigger increments.

[◀] [►] [▲] [▼]

Use these buttons to move the cursor.

E (MODE)

[PERFORM] (Performance)

Pressed to get into Performance mode. (p. 17)

Press this button while holding down [SHIFT] to switch to Part Play mode, enabling you to make changes to the settings for the Patch and Rhythm Set assigned to each Part. (p. 167)

[PATCH]

Pressed to get into Patch mode. (p. 17)

[RHYTHM] (Rhythm Set)

Selects Rhythm Set mode. (p. 17)

[GM]

Press this to enter General MIDI mode. (p. 17)

F (SOUND LIBRARY)

[USER]

Selects a sound from the USER library. (p. 18)

[CARD]

Selects a sound from an installed memory card, sold separately. (p. 18)

[PRESET]

Selects a sound from the PRESET library. (p. 18)

[EXP]

Selects a sound from a Wave Expansion Board (sold separately). (p. 18, Quick Start; p. 22)

G

PART SELECT [1/17]–[16/32]

Selects a Part whose settings you wish to change. (p. 160)

Switches each Part on or off. (p. 159)

TONE SWITCH [1]–[4]

Switches each Tone on or off. (p. 126)

TONE SELECT [1]–[4]

Selects a Tone whose settings you wish to change. (p. 134)

[A]–[H]

Selects a sound from the Sound Library.

H

[SHIFT]

This is used in combination with other buttons. Holding down this button changes the functions of other buttons.

[UNDO]

Use this to restore a modified parameter value to its original setting.

[DISK]

Selects Disk mode.

[EFFECTS ON/OFF]

Use this to turn the internal effects (Multi-effects, Chorus, Reverb) on or off. (p. 24)

I

MEMORY CARD Slot

A memory card (SmartMedia) can be inserted here. (p. 195)

J

[MIDI MESSAGE/RX] (MIDI Message Indicator/Receive Switch)

MIDI MESSAGE: This will light when a MIDI message is received.

RX: This turns Parts on and off in Performance mode and GM mode. (p. 159)

[1-16/17-32]

This specifies whether the PART SELECT [1/17]–[16/32] buttons will select Parts 1–16 or Parts 17–32.

When this button is lit, Parts 17–32 can be selected.

POWER Switch

Turns the XV-5080's power on and off. (Quick Start; p. 12)

Rear Panel
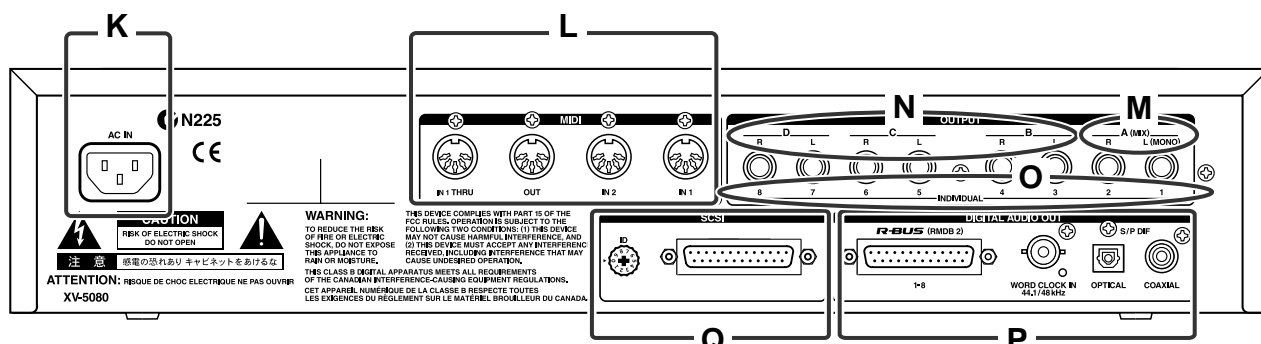
K

AC IN (AC Inlet)

Connect the included power cable here. (Quick Start; p. 11)

L (MIDI)

MIDI Connectors (IN 1/2, OUT, THRU)

These connectors connect the XV-5080 with other MIDI devices, enabling the sending and receiving of MIDI messages. (Quick Start; p. 11)

IN 1, 2: Receive messages from other MIDI devices.

OUT: Transmits messages to a MIDI device.

THRU: MIDI messages received at MIDI IN 1 are re-transmitted without change from this connector.

M (OUTPUT)

A (MIX) OUTPUT Jacks (L (MONO), R)

These jacks send audio signals in stereo (L/R) from the XV-5080 to an amp or mixer. For mono output, use the L jack. (Quick Start; p. 11)

These jacks are used when the SYSTEM SETUP Mix/Parallel parameter is set to "MIX." (p. 109, p. 112, p. 116, p. 118)

* *The XV-5080, as shipped from the factory, routes the output of all PRESET Patches to these jacks.*

N (OUTPUT)

B, C, D OUTPUT Jacks (L, R)

These jacks send audio signals in stereo (L/R) from the XV-5080 to an amp or mixer. (Quick Start; p. 11)

O (OUTPUT)

1–8 INDIVIDUAL OUTPUT Jacks

These jacks output audio signals in mono to an amp or mixer. (Quick Start; p. 11)

P (DIGITAL AUDIO OUT)

R-BUS (RMDB 2) Connector (OUTPUT A-D/1-8)

8-out 24 bit digital audio connector. Use this for connecting to the device such as Roland VM-3100Pro and DIF-AT.

NOTE

Only the R-BUS devices listed in the Owner's Manual may be connected to the R-BUS (RMDB2) connector. Be careful not to connect any other devices (such as SCSI-type devices, RS-232C-type devices, parallel-type devices, etc.) even though they have similar-looking connectors. Use only a specially designed R-BUS (RMDB2) cable to make connections.

MEMO

RMDB II, RMDB 2, and R-BUS refer to the same Roland standard.

WORD CLOCK IN Connector (44.1/48 kHz)

This is a connector for input of the word clock used for synchronizing external digital devices (BNC type). (p. 124)

* *The XV-5080's digital out is not compatible with sampling frequencies (word clock) other than 44.1 or 48 kHz.*

S/P DIF OUT Connector

The XV-5080 features both optical and coaxial digital out connectors (conforming to S/P DIF).

S/P DIF: This is a digital interface format used for consumer digital audio devices.

* *About the Optical Connector Protecting Cap*
* If you remove the protecting cap, be sure to keep in a safe place to prevent loss.
* Always place the protecting cap on the optical connector when the connector is not in use.
* If you use the optical connector, be sure that the connector cover you removed is placed out of the reach of children.

Q

SCSI Connector

This is a DB-25 type SCSI connector for connecting SCSI devices such as a CD-ROM drive, a Zip disk drive or a hard disk drive.

Rotate the ID switch to set the SCSI ID numbers so that none of the devices have the same ID number. (p. 239)

* *On the XV-5080, "8" and "9" of the ID switch are not used.*

Chapter 1 Selecting and Playing a Sound

Auditioning Sounds on the XV-5080 (Phrase Preview)
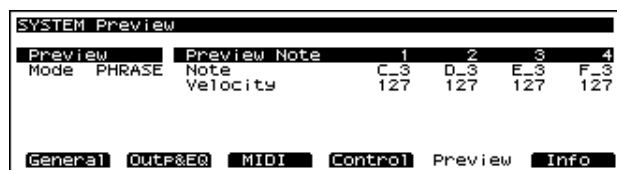
The Phrase Preview feature allows you to audition Patches on the XV-5080 even when it's not connected to a MIDI keyboard or sequencer. You can preview a Patch using a Phrase that's appropriate to the Patch's type or category.

1. Press [PATCH], getting its indicator to light.

2. Turn the VALUE dial, or press [INC]/[DEC] to select the desired Patch.

3. Press and hold the VOLUME knob.

The phrase prepared for the Patch will play while the knob is pushed.

   * *When you preview a Rhythm Set, the XV-5080 plays a percussion Phrase. Phrase Preview also allows you to audition a Performance — when you preview a Performance, you hear a Phrase appropriate to the currently selected Part.*

   * *A USER Patch or a Patch from an optional Wave Expansion Board (SRX/SR-JV80 series) may not preview in its normal pitch range. If this occurs, press [▲] or [▼] (Octave Shift function; p. 23) to select the desired pitch range.*

   * *If the pitch range of a Phrase is wider than the range of the Tones within a Patch (p. 132), or wider than the range of a Part within a Performance (p. 161), any notes in the Phrase that fall outside that range will not be heard.*

Setting the Way In Which Sounds Are Previewed

You can preview a Patch in any of three ways: "PHRASE" (the Patch plays a Phrase), "CHORD" (the Patch plays a chord), or "SINGLE" (the Patch plays a series of notes).

1. Press [SYSTEM/UTILITY], getting the indicator to light.

The System page will appear.

   * *If the indicator is blinking, you are in UTILITY mode. In this case, press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F5 (Preview)].

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

5. Press [EXIT] to return to the previous page.

Preview Mode

PHRASE: The Phrase associated with the Patch's type/category is played.

CHORD: The notes specified by PREVIEW KEY will play together as a chord.

SINGLE: The notes specified by PREVIEW KEY will sound one after another.

Preview 1–4 Note Number

Specifies the four notes (C -1–G9) that will be heard during a preview when "SINGLE" or "CHORD" is selected for Preview Mode.

   * *If "PHRASE" is selected for Preview Mode, these settings will have no effect.*

Preview 1–4 Velocity

Specifies the volume (0–127) of the four notes that will sound when "SINGLE" or "CHORD" is selected for Preview Mode.

   * *If "PHRASE" is selected for Preview Mode, these settings will have no effect.*

Playing a Patch on the XV-5080 from External MIDI Devices (MIDI Keyboard)

The XV-5080 produces sound in response to MIDI messages that it receives from an external MIDI device such as a MIDI keyboard or sequencer. In order for this to occur, the MIDI transmission channels of the external device must match the MIDI reception channels of the XV-5080.

For details on setting the MIDI transmission channels of your external MIDI device, refer to its owner's manual.

Setting the XV-5080's MIDI Reception Channels

In Patch mode

In order to play single Patches, set the XV-5080's MIDI reception channel as follows.

1. Press [SYSTEM], getting the indicator to light.

   * *If the indicator is blinking, you are in UTILITY mode. In this case, press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F3 (MIDI)].

3. Use the [▲]/[▼] button to move the cursor to "Patch Receive Channel."

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

5. After making the setting, press [EXIT].

Parts of a Performance

In order to play any of the 16 Parts in a Performance, you must set the MIDI reception channel for the Part.

1. Select the Performance you wish to use.

2. Press [F4 (MIDI)].

3. Press one of the [1/17]–[16/32] buttons to select the Part you want to set. To select Parts 17–32, press [1-16/17-32], getting its indicator to light, and then press the desired PART SELECT [1/17]–[16/32] button.

The indicator will light, and the Part number will appear in the upper right of the screen.

4. Press [▲]/[▼] to move the cursor to "Channel."

5. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

6. After making the setting, press [EXIT].

Selecting a Mode (Patch, Performance, or Rhythm Set)

In addition to Patch mode, the XV-5080 also features three other modes: Performance mode, Rhythm Set mode, and GM2 mode.

You can easily switch modes simply by pressing the MODE button (PERFORM/PATCH/RHYTHM/GM) for each mode.
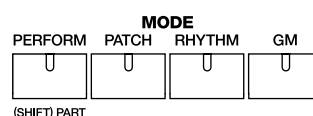
PERFORM (Performance Mode)

In this mode, the XV-5080 functions as a multi-timbral sound generator, and Performance settings can be modified.

PATCH (Patch Mode)

In this mode, you can play an individual Patch from the keyboard or modify Patch settings.

RHYTHM (Rhythm Set Mode)

This is how you can play a Rhythm Set from the keyboard and modify the Rhythm Set settings. XV-5080 Rhythm Sets can also be used for any Part in a Performance when in Performance mode.

GM (General MIDI2 Mode)

In this mode, the XV-5080 functions as a General MIDI 2-compatible sound generator.

General MIDI is a set of recommendations which seeks to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and music files that meet the General MIDI standard bear the General MIDI logo (![GENERAL MIDI]). Music files bearing the General MIDI logo can be played back using any General MIDI sound generating unit to produce essentially the same musical performance.

The upwardly compatible General MIDI 2 (![GENERAL MIDI2]) recommendations pick up where the original General MIDI left off, offering enhanced expressive capabilities, and even greater compatibility. Issues that were not covered by the original General MIDI recommendations, such as how sounds are to be edited, and how effects should be handled, have now been precisely defined. Moreover, the available sounds have been expanded. General MIDI 2 compliant

sound generators are capable of reliably playing back music files that carry either the General MIDI or General MIDI 2 logo. In some cases, the conventional form of General MIDI, which does not include the new enhancements, is referred to as "General MIDI 1" as a way of distinguishing it from General MIDI 2.

Patches, Rhythm Sets and Performances can be stored in the following memory locations within each library group.

	PATCH	RHYTHM	PERFORM
USER	1–128	1, 2, 3, 4	1–64
CARD	*	*	*
PR-A	1–128	1, 2	1–32
PR-B	1–128	1, 2	1–32
PR-C	1–128	1, 2	—
PR-D	1–128	1, 2	—
PR-E	1–128	1, 2	—
PR-F	1–128	1, 2	—
PR-G	1–128	1, 2	—
PR-H	1–256	1, 2, 3, 4	—
XP-A	*	*	—
:	:	:	:
XP-H	*	*	—

–: None   *: Differs by type

Selecting Sound Libraries

On the XV-5080, tone data is stored in what are called "SOUND LIBRARY." The SOUND LIBRARY is divided into four "groups": USER, CARD, PRESET, and EXP.

You can easily select the desired group simply by pressing the SOUND LIBRARY button (USER/CARD/PRESET/EXP) for each group.
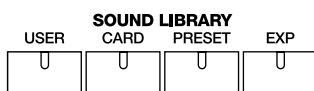
USER

You can store your own Patches, Rhythm Sets and Performances in the SOUND LIBRARY's USER group. Save the tones that you create to this library.

CARD

This library uses sounds from a commercially available memory card (SmartMedia) inserted into the MEMORY CARD slot.

You can directly select Tones contained on the card — even without loading the files into the USER memory — by assigning banks (CD-A through CD-H) to the files on the card.

PRESET

The PRESET library group contains the sounds that are permanently stored in the XV-5080's memory. Performances are found only in PR-A and B. However, you can modify its sounds and save them as new sounds in the USER group.

EXP (Expansion)

Select this group to use the tones stored on wave expansion boards (SRX Series, SR-JV80 Series; sold separately) inserted in the EXP-A through -H slots. You cannot alter the contents of the EXP group, though you can modify its sounds and save them as new sounds in the USER group. The number of Patches and Rhythm Sets in the EXP group depends on the specific wave expansion boards installed. The EXP group contains no Performances. (Precautions When Installing Wave Expansion Board (Quick Start; p. 3))

* *It is not possible to select an EXP Patch unless a wave expansion board is inserted into the corresponding slot.*

* *CARD sounds can be selected only if a SmartMedia card is inserted into the MEMORY CARD slot.*

Selecting a Patch

Basic Procedure for Selecting a Patch

Turn the VALUE dial or press [INC]/[DEC] to select the desired Patch.

VALUE Dial

To move quickly through the available Patches:

Turn the VALUE dial while pressing it or, if you prefer, turn the VALUE dial while pressing [SHIFT].

[INC]/[DEC]

To move quickly upward through the available Patches:

Hold down [INC] and press [DEC]. Alternatively, hold down [SHIFT] and press [INC].

To move quickly downward through the available Patches:

Hold down [DEC] and press [INC]. Alternatively, hold down [SHIFT] and press [DEC].

MEMO

When you hold down [INC] or [DEC], you may eventually arrive at the beginning (001) of the selected bank (A–H). To continue selecting Patches, release and then press the desired [INC] or [DEC] button again.

Selecting Patches by Category (Patch Finder)

The XV-5080's "Patch Finder" allows you to quickly find any Patch.

1. Press the [PATCH] button, lighting the indicator.

2. Press the [PATCH FINDER] button, lighting the indicator.

The categories will appear in the PATCH PLAY page.

You can press [▲]/[▼] to select the desired category.

At this point, you can select patches within the currently selected category, either by rotating the VALUE dial, or by using the [INC]/[DEC] button.

If you want to get even more information, carry out the following operation.

3. Press the VALUE dial.

The Group List window will appear.

4. Rotate the VALUE dial to select a group.

5. Press [F6 (Select)] to call up the Category List window.

6. By rotating the VALUE dial, move the cursor to the desired Patch, and then press [F6 (Select)].
   The Patches of the selected category will be displayed in sets of 10.

7. Pressing the [VOLUME] knob (PHRASE PREVIEW) allows you to audition the selected Patch.

8. Press the VALUE dial (SOUND LIST) to return to the PATCH PLAY page.

The following categories can be selected.

Category

Group	Category	Contents
—	NO ASSIGN	No assign
Piano		
PNO	AC.PIANO	Acoustic Piano
EP	EL.PIANO	Electric Piano
Keys&Organ		
KEY	KEYBOARDS	Other Keyboards (Clav, Harpsichord etc.)
BEL	BELL	Bell, Bell Pad
MLT	MALLET	Mallet
ORG	ORGAN	Electric and Church Organ
ACD	ACCORDION	Accordion
HRM	HARMONICA	Harmonica, Blues Harp
Guitar		
AGT	AC.GUITAR	Acoustic Guitar
EGT	EL.GUITAR	Electric Guitar
DGT	DIST.GUITAR	Distortion Guitar
Bass		
BS	BASS	Acoustic & Electric Bass
SBS	SYNTH BASS	Synth Bass
Orchestral		
STR	STRINGS	Strings
ORC	ORCHESTRA	Orchestra Ensemble
HIT	HIT&STAB	Orchestra Hit, Hit
WND	WIND	Winds (Oboe, Clarinet etc.)
FLT	FLUTE	Flute, Piccolo
Brass		
BRS	AC.BRASS	Acoustic Brass
SBR	SYNTH BRASS	Synth Brass
SAX	SAX	Sax
Synth		
HLD	HARD LEAD	Hard Synth Lead
SLD	SOFT LEAD	Soft Synth Lead
TEK	TECHNO SYNTH	Techno Synth
PLS	PULSATING	Pulsating Synth
FX	SYNTH FX	Synth FX (Noise etc.)
SYN	OTHER SYNTH	Poly Synth
Pad		
BPD	BRIGHT PAD	Bright Pad Synth
SPD	SOFT PAD	Soft Pad Synth
VOX	VOX	Vox, Choir
Ethnic		
PLK	PLUCKED	Plucked (Harp etc.)
ETH	ETHNIC	Other Ethnic
FRT	FRETTED	Fretted Inst (Mandolin etc.)

Rhythm&SFX		
PRC	PERCUSSION	Percussion
SFX	SOUND FX	Sound FX
BTS	BEAT&GROOVE	Beat and Groove
DRM	DRUMS	Drum Set
CMB	COMBINATION	Other Patches which use Split and Layer

Internal organization

When you select a sound, the sound data is loaded into a temporary part of memory known as the Temporary Area. The XV-5080 will produce sound according to the data in this temporary area.

The data in the temporary area will
- change whenever you select a different sound.
- be lost when the power is turned off.
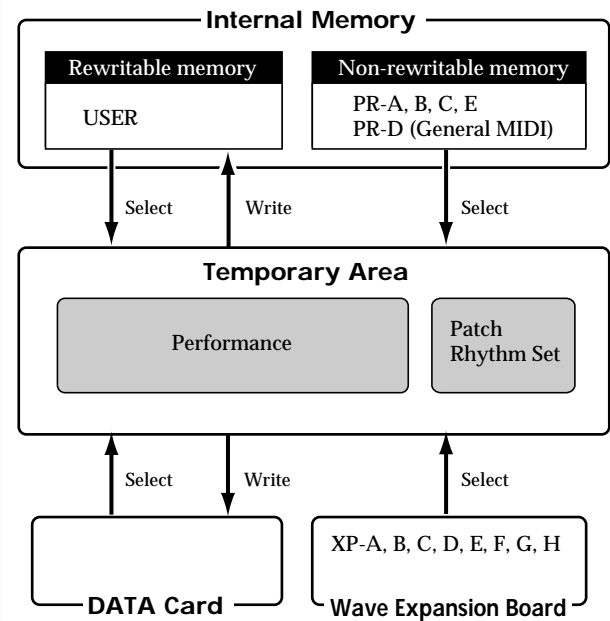
When you edit a Performance, Patch or Rhythm Set, your modifications affect only the data that was loaded into the temporary area. Since the data in the temporary area is temporary, you will need to use the Write operation if you wish to keep the modified data. (p. 194)

Selecting Patches and Rhythm Sets from an External MIDI Device

By receiving MIDI messages, the XV-5080 can switch Patches (including the Patches for each Part of a Performance) or Rhythm Sets.

In Patch or Rhythm Set modes

1. Press [PATCH] — or [RHYTHM] if you wish to select a Rhythm Set — to make the button's indicator light.

2. Set the transmission channel of your external MIDI device to match Patch Receive Channel (p. 212), the XV-5080's MIDI reception channel.

To learn about the MIDI settings of your external MIDI device, see its owner's manual.

3. Transmit the appropriate Bank Select MSB (Controller #0) value to the XV-5080.

If the value is "87," a Patch is selected. If the value is "86," a Rhythm Set is selected.

4. Transmit the appropriate Bank Select LSB (Controller #32) value to the XV-5080.

5. Transmit the Program Change value corresponding to the Patch or Rhythm Set.

The desired Patch or Rhythm Set will be selected on the XV-5080.

* *When the XV-5080 receives only Program Change messages without receiving Bank Select messages, it will switch to the corresponding Patch or Rhythm Set from the currently selected group or bank.*

The Patches and Rhythm Sets in each library correspond to Bank Select numbers as follows.

Patches

Patch Group	Patch Number	Bank Select Number MSB	Program Number LSB	
USER	001–128	87	00	001–128
PR-A	001–128	87	64	001–128
PR-B	001–128	87	65	001–128
PR-C	001–128	87	66	001–128
PR-D	001–128	87	67	001–128
PR-E	001–128	87	68	001–128
PR-F	001–128	87	69	001–128
PR-G	001–128	87	70	001–128
CD-A	001–128	87	32	001–128
:	:	:	:	::
CD-H	001–128	87	39	001–128
XP-A	*1	*1	*1	*1
:	:	:	:	:
XP-H	*1	*1	*1	*1

* *1 Depends on the Wave Expansion Board installed.*

Fixed Bank Select numbers are assigned to the Wave Expansion Board itself.

Patch Group	Patch Number	Bank Select Number MSB	LSB
SR-JV80-01	001–128	89	00
SR-JV80-01	129–256	89	01
SR-JV80-02	001–128	89	02
SR-JV80-02	129–256	89	03
:			
SR-JV80-65	001–128	91	00
SR-JV80-65	129–256	91	01

Rhythm Sets

Rhythm Set Group	Rhythm Set Number	Bank Select Number MSB	LSB	Program Number
USER	1, 2, 3, 4	86	00	1, 2, 3, 4
PR-A	001, 002	86	64	001, 002
PR-B	001, 002	86	65	001, 002
PR-C	001, 002	86	66	001, 002
PR-D	001, 002	86	67	001, 002
PR-E	001, 002	86	68	001, 002
PR-F	001, 002	86	69	001, 002
PR-G	001, 002	86	70	001, 002
CD-A	1, 2, 3, 4	86	32	1, 2, 3, 4
:	:	:	:	::
CD-H	1, 2, 3, 4	86	39	1, 2, 3, 4
XP-A	*1	*1	*1	*1
:	:	:	:	::
XP-H	*1	*1	*1	*1

* *1 Depends on the Wave Expansion Board installed.*

Fixed Bank Select numbers are assigned to the Wave Expansion Board itself.

Rhythm Set Group	Rhythm Set Number	Bank Select Number MSB	LSB
SR-JV80-01	001–128	88	00
SR-JV80-01	129–256	88	01
SR-JV80-02	001–128	88	02
SR-JV80-02	129–256	88	03
:			
SR-JV80-65	001–128	90	00
SR-JV80-65	129–256	90	01

In Performance mode

1. Press [PERFORM], getting its indicator to light.

2. Set the transmission channel of your external MIDI device to match the XV-5080's Performance Control Channel (p. 212).

To learn about the MIDI settings of your external MIDI device, see its owner's manual.

3. Transmit the appropriate Bank Select MSB (Controller #0) value to the XV-5080.

4. Transmit the appropriate Bank Select LSB (Controller #32) value to the XV-5080.

5. Transmit the Program Change value.

The desired Performance will be selected.

* *When the XV-5080 receives a Program Change message without Bank Select messages, the corresponding Performance in the currently selected group or bank will be chosen.*

MEMO

You can select any Performance Part's Patch or Rhythm Set via MIDI. To learn how, refer to "Assigning a different Patch to Part (p. 162)" in the XV-5080 QUICK START.

The Performances in each group correspond to the Bank Select numbers as follows.

Performances

Performance Group	Performance Number	Bank Select Number MSB	LSB	Program Number
USER	001–064	85	00	001–064
PR-A	001–032	85	64	001–032
PR-B	001–032	85	65	001–032
CD-A	001–064	85	32	001–064
:	:	:	:	::
CD-H	001–064	85	39	001–064

When Patch/Rhy Rx Ch and Perform Ctrl Ch are set to the same channel, both Bank Select and Program Change are sent, making it possible to switch among Patches, Rhythm Sets, and Performances.

Using MIDI to Switch between Patch, Performance and General MIDI 2 Modes

You can switch between Patch, Performance, and General MIDI 2 modes by transmitting the appropriate System Exclusive (Sys Ex) message to the XV-5080, as listed below. (Sys Ex messages are constructed using hexadecimal notation.)

To switch to Patch/Rhythm Set (Sys Ex.)

F0 41 10 00 10 12 00 00 00 00 00 01 7F F7

To switch to Performance

F0 41 10 00 10 12 00 00 00 00 00 00 F7

To switch to GM2 mode

F0 41 10 00 10 12 00 00 00 00 00 03 7F F7

The third byte of the MIDI message indicates the device ID number, and the factory setting is "10." (This is "10" in hexadecimal notation; in decimal this would be 16.) (This device ID number will appear as 17 in the display of the XV-5080. The transmitted messages will use a value of one less than this (16).) If you have modified the device ID number (p.

212), modify the third byte to the appropriate value when transmitting the above exclusive message.

Setting a Patch's Pitch in Octave Steps (Octave Shift)

In Patch mode, you can easily change the pitch of an entire Patch.

Each time you press [▲]/[▼], the pitch will change in one-octave steps. You can adjust a Patch's pitch by as much as +/- 3 octaves.

```
PATCH PLAY              Rx-Ch= 1   MFX)CHO)REV) EQ ) ▣
*PR-A:001  128voicePno

Tone=-2--        Category          Octave  ⌃
                 PNO(AC.Piano        +3    ⌄
 Common    WG     TVF    TVA   LFO&Ctl  Effects
```

Selecting How a Patch Will Play (Polyphonic/ Monophonic)

You can set whether a Patch will play multiple notes at the same time (Polyphonic) — for example, when you play a chord or legato line — or whether only the last-played note will be heard (Monophonic).

1. Select the Patch you wish to use. (p. 19)

2. Press [F1 (Common)].

3. Press [F2 (Control)].

```
PATCH Common Control          PNO;128voicePno  ▪
                                   Type(4TONES)
 Key Mode                    ▸Portamento
 Key Assign          POLY    ⟋Switch         OFF
 Legato Switch       OFF     Mode           LEGATO
 Legato Retrigger    OFF     Type            RATE
 Bender                      Start          PITCH
 Bend Range Up        +2     Time             18
 Bend Range Down      -2
 General [Control] Struct  K.Range  V.Range
```
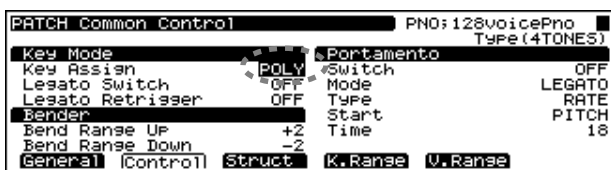
4. Press [▲]/[▼]/[◀]/[▶] to move the cursor to "Mono/Poly."

5. Turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

6. After making the setting, press [EXIT].

Chapter 2 Using the XV-5080 Effects

The XV-5080 contains four independent effects units.

Multi-effects

The Multi-effects offers 90 different effects. In addition to effects consisting of only one effect, such as distortion and delay, the 90 types also include a number of compound effects, which are formed by combining a number of effects. Furthermore, the multi-effects effect types also include chorus and reverb, although the chorus and reverb described below can be applied as separate effects systems. The XV-5080 features three Multi-effects systems in Performance mode, with each multi-effect independently controllable.

Chorus

Chorus adds depth and spaciousness to the sound.

Reverb

Reverb adds ambience — such as the sound of a concert hall or auditorium—to sounds.

Equalizer

An equalizer lets you boost or cut specified frequency ranges of a sound to adjust the tone.

  * *Equalizer is set in System mode (p. 211).*

Turning Effects On/Off

You can turn any of the XV-5080's effect units—Multi-effects, Chorus, Reverb, and EQ—on or off using a single procedure.

1. Press the [EFFECTS ON/OFF] button.

The EFFECTS On/Off window will appear.
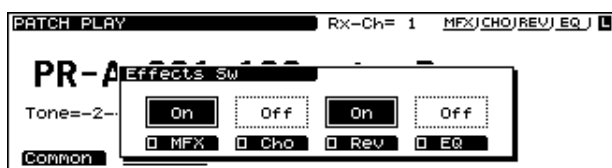
2. ress the [F2]–[F5] button corresponding to the effect to switch that effect on or off.

The display of the setting will be turned on and off.

3. Press the [EFFECTS ON/OFF] button, getting its indicator light to go out.

MEMO

You might, for example, want to turn effects off when creating a new Patch so that you can hear what it sounds like without effects. You may also want to turn off the XV-5080's effects when you wish to use external effect devices instead of the built-in effects.

Patch Mode Settings

You can make separate Multi-effects, chorus, and reverb settings to each Four-Tone Patch and Multi-Partial Patch, with the same effects applied to each Tone or Partial. You can control the amount of effect to be applied to each Tone or Partial by adjusting its send level with respect to the Multi-effects, Chorus and Reverb.
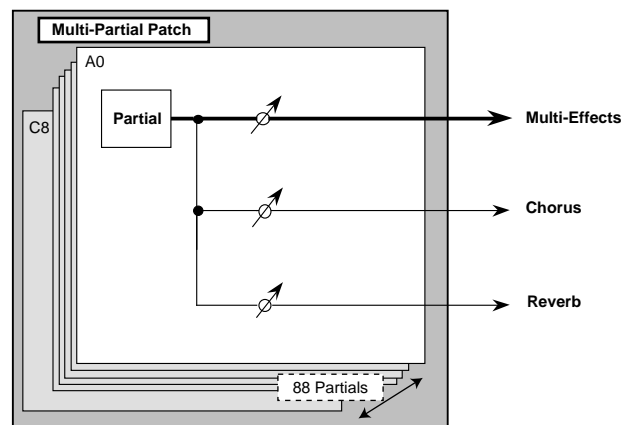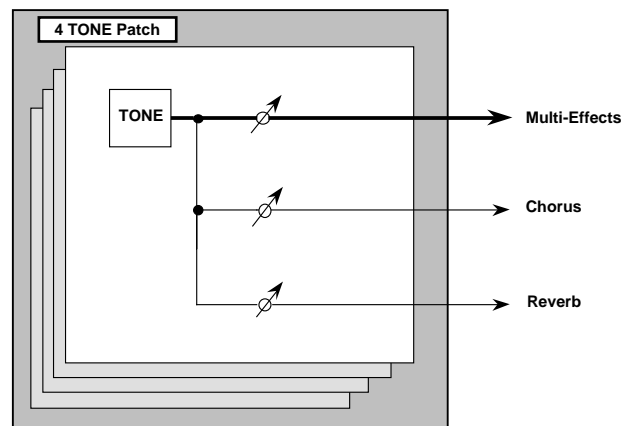
Preliminarily, the settings for effects involves determining Tone Output Assign for Four-Tone Patches, and Split Key Output Assign for Multi-Partial Patches.

In keeping with the intended usage, choose from the following setting values for Tone Output Assign.

MFX: Selected when the Multi-effects, chorus, and reverb are used.

A-D: Selected when outputting in stereo without use of the Multi-effects. Chorus and reverb can be used.

1-8: Selected when outputting in mono without Multi-effects. Chorus and reverb can be used. When this setting is used, chorus and reverb sounds are output in stereo according to the Chorus Output Assign and Reverb Output Assign settings.

The screen appears as shown below, according to the settings values.

- For MFX

```
PATCH Effects General          PNO:128voicePno ■
                                        Output
Tone   ┌─127┐ MFX    01┌127┐      MAIN
1---   │     │ Stereo EQ│   │ Cho 1│ 0
Output │     └─127┤     ├127┘ Chrus│
TONE   │           127         │
MFX■───┘─127┤                   │Rev 3├─35┐
                                │Hall │   ABCD
(Tone Output Assign         )          12345678
General  MFX Prm  MFX Ctl  Chorus  Reverb  Palette
```

- For A–D

```
PATCH Effects General          PNO:128voicePno ■
                                        Output
Tone   ┌─127┐                    MAIN
1---   │     │              Cho 1│ 0
Output │     │              Chrus│
TONE   │ 0                      │
A ■────┘                        │Rev 3├─35┐
                                │Hall │   ABCD
(Tone Output Assign         )          12345678
General  MFX Prm  MFX Ctl  Chorus  Reverb  Palette
```

- For 1–8

```
PATCH Effects General          PNO:128voicePno ■
                                        Output
Tone   ┌─127┐                    MAIN
1---   │     │              Cho 1│ 0
Output │     │              Chrus│
TONE   │ 0                      │
1 ■────┘                        │Rev 3├─35┐
                                │Hall │   ABCD
(Tone Output Assign         )          12345678
General  MFX Prm  MFX Ctl  Chorus  Reverb  Palette
```
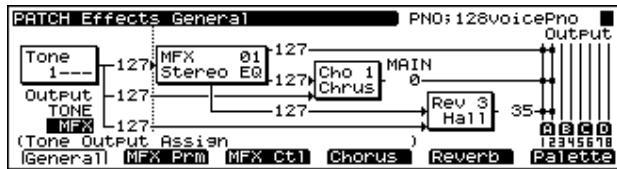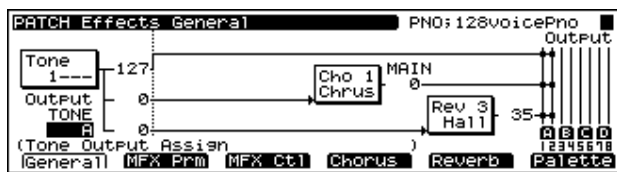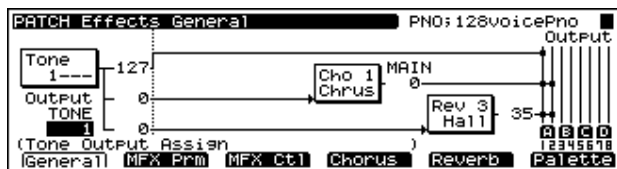
The following shows the basic setting procedure.

1. Select the Patch you wish to work with.

2. Press [F6 (Effects)].

The Patch Effect page appears.

3. Press [F1 (General)].

The General page will appear.

```
PATCH Effects General          PNO:128voicePno ■
                                        Output
Tone   ┌─127┐ MFX    01┌127┐      MAIN
1---   │     │ Stereo EQ│   │ Cho 1│ 0
Output │     └─127┤     ├127┘ Chrus│
TONE   │           127         │
MFX    └─127┤                   │Rev 3├─35┐
                                │Hall │   ABCD
(Tone Select                )          12345678
General  MFX Prm  MFX Ctl  Chorus  Reverb  Palette
```

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

  * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the value the parameter originally had.*

6. Repeat Steps 3 to 5 to set the Effect.

7. Press [EXIT] to return to the PATCH Play page.

A "*" symbol will appear at the left of the Patch name, indicating that its settings have been modified.

```
PATCH PLAY              Rx-Ch= 1   MFX CHO REV EQ ■

*PR-A:001  128voicePno

Tone=-2--        │Category        │Octave  ⇕
                 │PNO(AC.Piano  ) │  0
Common    WG       TVF     TVA    LFO&Ctl  Effects
```

  * *If you turn off the power or select another Patch while the "*" symbol is displayed, your new Patch settings will be lost. If you wish to keep them, perform the Write operation. (p. 194)*

  * *With Multi-Partial Patches, pressing [F6 (MIDISel)] allows you to select the Partial to be edited from the MIDI keyboard.*

  * *When [MFX], [CHO], or [REV] are turned off, effects processors that are turned off will be indicated by a dashed outline in the General page.*

  * *When the General page is accessed, you can press [F6 (Palette)] to view the settings for all four Tones together in a single screen. This allows you to compare the settings of each Tone as you make settings. When you press [F6 (→Tone 1)], the General page will reappear. [F6] will display the Tone number to which you will return.*

Split Key Edit Mode

When editing Multi-Partial Patches, this sets the key ranges to which settings are applied.

Settings Values

1KEY: Settings are made for each key individually.

PTL: Settings are applied to all keys to which corresponding Partials are assigned.

ALL: Settings are applied to all keys to which all Partials are assigned.

Routing Tones to Effects

This sets the output destination and level for the currently selected Tone and Partial, as well as its send level with respect to the Chorus and Reverb.

On the Effects General page, set the following parameters.

Output Assign

MFX: The Tone is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

A–D: The Tone is sent to one of the four output-jack stereo pairs, OUTPUTS A–D.

1–8: The Tone is sent to the INDIVIDUAL output jacks 1–8.

Dry Send Level

Range: 0–127

This sets the level of the signal sent to the output destination set with Output Assign.

Chorus Send Level 0–127

Sets how much of the Tone is sent to the Chorus.

Reverb Send Level 0–127

Sets how much of the Tone is sent to the Reverb.

Making Multi-Effects Settings

This page allows you to establish various settings for the Multi-effects processor, including its parameters and output-jack assignment.

On the Effects General page, set the following parameters.

MFX Type (Multi-effects Type)

Use this parameter to select from among the 90 available Multi-effects. For a description of these effects, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

MFX Dry Send Level 0–127

Determines the level of the Multi-effects processor's output to the OUTPUT jacks.

MFX Chorus Send Level 0–127

Determines the level of the post-Multi-effects processor signal sent to Chorus.

MFX Reverb Send Level 0–127

Determines the level of the post-Multi-effects processor signal sent to Reverb.

MFX Output Assign A–D

Specifies the OUTPUT jacks to which the signal, after it has passed through the Multi-effects, is to be routed.

Pressing [F2 (MFX Prm)] in the Effects General page calls up the MFX Param page, in which you can make the following settings.

MFX A–D Parameter

These parameters allow you to customize the selected Multi-Effect. For a description of the parameters, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

Pressing [F3 (MFX Ctl)] in the Effects General page calls up the MFX Control page, in which you can make the following settings.

MFX Control 1–4 Source

Select the Control Source to be used for changing the Multi-effects parameters, and set the Sens and parameters to be changed by that Control Source.

OFF: No controller is used.

CC01–95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL 1–4: System control 1–4

MFX Control Destination 1–4

Selects the Multi-effects parameter to be controlled using the MFX Control 1–4 source. The parameters that can be selected depend on which type of Multi-effects is set to MFX Type.

MFX Control 1–4 Sens -63– +63

If you wish to modify the selected parameter in a positive (+) direction—i.e., a higher value, toward the right, or faster, etc.—from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction—i.e., a lower value, toward the left, or slower, etc.—from its current setting, select a negative (-) value. Higher numbers produce a greater amount of change.

Making Chorus Settings

The XV-5080's Chorus effect unit can also be used as a stereo delay unit.

These settings allow you to select chorus or delay, the characteristics of the selected effect type, and the Chorus output routing.

On the Effects General page, set the following parameters.

Chorus Type

0 (Off): Neither Chorus or Delay is used.

1 (Chrus): Chorus is used.

2 (Delay): Delay is used.

Chorus Output Select

This parameter allows you to send the Chorus output directly to the currently selected OUTPUT jacks, to the Reverb, or to both.

MAIN: The Chorus output is sent only to the OUTPUT jacks.

REV: The Chorus output is sent only to the Reverb.

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Level   0–127

Determines the Chorus output level.

Chorus Output Assign   A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "M+R."

Pressing [F4 (Chorus)] in the General page calls up the Chorus page, in which you can make the following settings.

• For Type: 1 (CHORUS)

Rate (Chorus Rate)   0.05–10.00 Hz

Adjusts the modulation speed of the chorus effect.

Depth (Chorus Depth)   0–127

Adjusts the modulation depth of the chorus effect.

Feedback (Chorus Feedback)   0–127

Specifies the amount of the chorus effect's output to be returned - fed back - to its input. Higher settings will create a more complex Chorus effect.

Phase   0–180 degree

Adjusts the spatial spread of the sound.

Pre Delay (Chorus Pre Delay) 0.0–100 ms

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Higher settings will make the sound more spacious.

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: Frequencies higher than the selected cutoff frequency value are eliminated.

HPF: Frequencies lower than the selected cutoff frequency value are eliminated.

Cutoff freq (Cutoff Frequency) *1

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

*1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

• For Type: 2 (DELAY)

Center (Delay Center)   200–1000 ms, Note

Sets the delay time for the delay located at the center of the stereo field.

Left (Delay Left)   200–1000 ms, Note

Sets the delay time for the delay located at the left side of the stereo field.

Right (Delay Right)   200–1000 ms, Note

Sets the delay time for the delay located at the right side of the stereo field.

HF Damp *1

This allows you to reduce, or "damp," the high-frequency content of the repeated feedback delays—frequencies above the selected value will be damped. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

*1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback   -98– +98%

Adjusts the amount of delay feedback, controlling the number of times the delay repeats. With negative (-) values, the phase of the repeated delays is inverted.

Center (Delay Center Level)   0–127

Sets the volume level of the delay located at the center of the stereo field.

Left (Delay Left Level)   0–127

Sets the volume level of the delay located at the left side of the stereo field.

Right (Delay Right Level)   0–127

Sets the volume level of the delay located at the right side of the stereo field.

Making Reverb Settings

These settings allow you to select the desired type of Reverb, its characteristics, and the pair of OUTPUT jacks to which the Reverb unit's stereo output is routed.

On the Effects General page, set the following parameters.

Reverb Type

Selects the type of Reverb.

0 (Off): Reverb is not used.

1 (Revrb): Normal Reverb

2 (Room): This reverb simulates typical room acoustic reflections.

3 (Hall): This reverb simulates typical concert hall acoustic reflections.

4 (Plate): This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using SRV PLATE.

Reverb Level 0–127

Specifies the output level of the Reverb.

Reverb Output Assign A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

Pressing [F5 (Reverb)] in the General page calls up the Reverb page, in which you can make the following settings.

• For Type: 1 (REVERB)

Type (Reverb/Delay Type)

Selects a type of reverb or delay.

ROOM1: This is a short reverb with high density.

ROOM2: This is a short reverb with low density.

STAGE1: This is a reverb with greater late reverberation.

STAGE2: This is a reverb with strong early reflections.

HALL1: This is a very clear-sounding reverb.

HALL2: This is a rich reverb.

DELAY: This is a conventional delay effect.

PAN-DELAY: This is a delay effect with echoes that pan left and right.

Time (Reverb/Delay Time) 0–127

When the Type setting is ROOM1–HALL2, this adjusts the length of reverberation. When the Type setting is DELAY or PAN-DELAY, this adjusts the delay time.

Higher settings produce a more spacious ambience.

HF Damp (Reverb/Delay HF Damp) *1

Specifies the frequency above which the high-frequency content of the reverb sound will be cut, or "damped."

Lower values cause a greater range of high frequencies to be cut, producing a softer reverb sound. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

*1 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback (Delay Feedback)

When the Type setting is DELAY or PAN-DELAY, this adjust the amount of delay feedback, controlling the number of delay repeats.

Higher settings will produce more delay repeats.

• For Type: 2 (SRV ROOM)/3 (SRV HALL)/4 (SRV PLATE)

Pre Delay (Pre Delay Time) 0.0–100 ms

Adjusts the time delay from when the direct sound begins until the reverb sound is heard.

Time (Reverb Time) 0–127

Adjusts the time length of reverberation.

Size 1–8

Adjusts the size of the simulated room or hall. The size becomes bigger as the value increases.

High Cut (High Cut Frequency) *1

Sets the frequency above which the high-frequency content of the reverb will be reduced. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Density (Reverb Density) 0–127

Adjusts the density of reverb. Higher values result in greater density.

Diffusion (Reverb Diffusion) 0–127

Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)

LF Damp Freq (LF Damp Frequency) *2

Specifies the frequency below which the low-frequency content of the reverb sound will be reduced, or "damped."

LF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with LF Damp. With a setting of "0," there will be no reduction of the reverb's low-frequency content.

HF Damp Freq (LF Damp Frequency) *3

Specifies the frequency above which the high-frequency content of the reverb sound will be reduced, or "damped."

HF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with HF Damp. With a setting of "0," there will be no reduction of the reverb's high-frequency content.

*1   160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12500 Hz, BYPASS

*2   50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000 Hz

*3   4000, 5000, 6400, 8000, 10000, 12500 Hz

Performance Mode Settings

Three different Multi-effects can be used in a Performance.

Select which of these three Multi-effects to use with Part Output MFX Select. With this parameter, the same Multi-effects are applied to all selected Parts. You can adjust the amount of effect to be applied to the Parts by adjusting their Send Levels to each of the effect units. (Fig. 1)

The Send Level setting for each Tone can also influence effect intensity (Fig. 2).

Furthermore, you can take the Multi-effects you have applied to a Patch in a Part and apply them to the entire Performance, or just part of the Performance.

Fig.1 – When Output Assign is set to "MFX" in the Performance mode (the output settings for Tone are ignored)
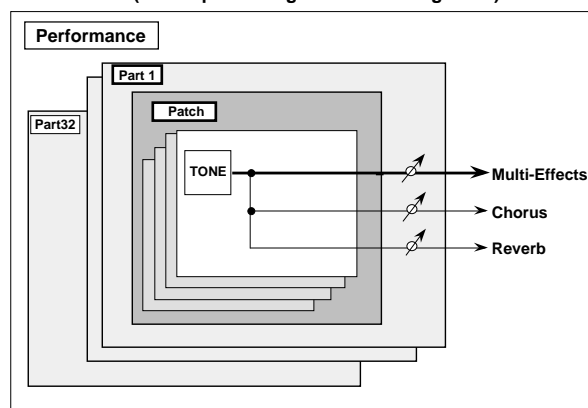
Fig.2 – When Output Assign is set to "PATCH" in the Performance mode (the output settings for Tone are valid)
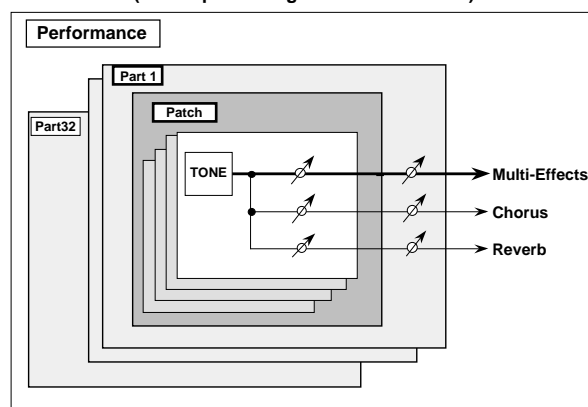
The primary role of the effect settings is to determine the Part Output Assign.

You can select from the following Part Output Assign settings values to suit your purposes.

MFX: Selected when Multi-effects, chorus, and reverb are used.

A-D: Selected when outputting in stereo without use of the Multi-effects. Chorus and reverb can be used.

1-8: Selected when outputting in mono without Multi-effects. Chorus and reverb can be used. When this setting is used, chorus and reverb sounds are output in stereo according to the Chorus Output Assign and Reverb Output Assign settings.

PAT: The Part's output destination is determined by the settings of the Patch or Rhythm Set assigned to the Part.

The screen appears as shown below, according to the settings values.
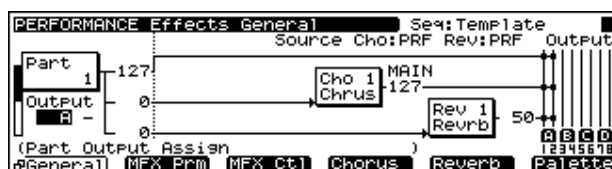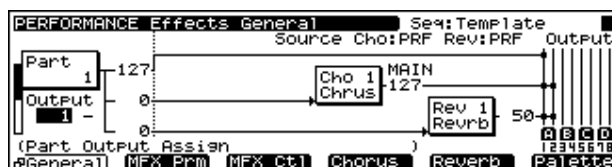
• For MFX

• For A–D

• For 1–8

The following shows the basic setting procedure.

1. Select the Performance you wish to use.

2. Press [F5 (Effects)].

The Perform Effect page will appear.

3. Press [F1 (General)].

The General page will appear.

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

   * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the value the parameter originally had.*

6. Repeat Steps 3 to 5 to set the Effect.

7. Press [EXIT] to return to the PERFORM Play page.

A "*" symbol will appear at the left of the Performance name, indicating that its settings have been modified.

```
PERFORMANCE PLAY          Ctl-Ch=16  MFX CHO REV EQ  L
*PR-A: 01 Seq:Template
           Part 1          ●000 0000 0000 0000
        <PNO:128voicePno >  ____ ____ ____ ____
Common  K.Range  Part  MIDI  Effects  Info
```
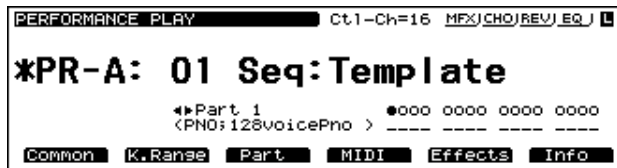
* *If you turn off the power or select another Performance while the "*" symbol is displayed, your new Performance settings will be lost. If you wish to keep these settings, perform the Save operation. (p. 194)*

* *When [MFX], [CHO], or [REV] are turned off, effects processors that are turned off will be indicated by a dashed outline in the General page.*

* *When the General page is accessed, you can press [F6 (Palette)] to view the values for eight Parts (Parts 1–8, Parts 9–16, Parts 17–24, or Parts 25–32) in a single screen. This allows you to compare the settings of each Part as you make settings. Each time you press [F1], the Part Palette page will switch between Parts 1–8, Parts 9–16, Parts 17–24, and Parts 25–32. When you press [F6 (→Part 1)], the General page will reappear. [F6] will display the Part number to which you will return.*

Routing Part Outputs

Sets the output destination and level for the selected Part, as well as its send level with respect to the Chorus and Reverb.

On the Effects General page, set the following parameters.

Part Output Assign

MFX: The Part's sound is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

OUTPUT A–D: The Part is sent to the selected pair of OUTPUT A–D jacks.

INDIVIDUAL 1–8: The Part is sent to the selected INDIVIDUAL 1–8 jack.

PATCH: Conforms to the Patch settings.

Part Output MFX Select A–C

Selects which of the three Multi-effects is to be used.

Part Dry Send Level

Range: 0–127

This sets the level of the signal sent to the output destination set with Part Output Assign.

Part Chorus Send Level 0–127

Sets how much of the Part's sound is sent to the Chorus.

Part Reverb Send Level 0–127

Sets how much of the Part's sound is sent to the Reverb.

Making Multi-Effects Settings

This page allows you to make various settings for the Multi-effects, including the type, the parameters, and the output assignments.

On the Effects General page, set the following parameters.

MFX Type (Multi-effects Type)

Use this parameter to select from among the 90 available Multi-effects. For a description of these effects, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

MFX Dry Send Level 0–127

Determines the level of the signal that is to be sent to the output jacks, after passing through the Multi-effects.

MFX Chorus Send Level 0–127

Determines the level of the signal that is to be sent to Chorus, after passing through the Multi-effects.

MFX Reverb Send Level 0–127

Determines the level of the signal that is to be sent to Reverb, after passing through the Multi-effects.

MFX Output Assign A–D

Selects the OUTPUT jacks to which the Multi-effects stereo output is routed.

MFX A–C Source

Assigns the MFX settings being used to Multi-effects A–C. If you wish to use the MFX parameter settings of the Performance, select PRF. If you wish to use the MFX parameter settings of the Patch assigned to one of the Parts, select the Part number (P1–32).

Pressing [F2 (MFX)] in the Effects General page calls up the MFX Param page, in which you can make the following settings.

* *When you press [F2 (MFX)] once again on this page, the MFX Control page appears. When you press [F2 (MFX)] once again, the MFX Param page will reappear.*

MFX A–C Parameter

These parameters allow you to customize the selected Multi-Effect. For a description of the parameters, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

Pressing [F2 (MFX)] in the MFX Param page calls up the MFX Control page, in which you can make the following settings.

*   *When you press [F2 (MFX)] once again, the MFX Param page will reappear.*

MFXA–C Control 1–4 Source

Select the Control Source to be used for changing the Multi-effects parameters, and set the Sens and parameters to be changed by that Control Source.

OFF: No controller is used.

CC01–95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL 1–4: System control 1–4

MFXA–C Control Destination 1–4

Selects the Multi-effects parameter to be controlled using the MFX Control 1–4 source. The parameters that can be selected depend on which type of Multi-effects is set to MFX Type.

MFXA–C Control 1–4 Sens -63– +63

If you wish to modify the selected parameter in a positive (+) direction—i.e., a higher value, toward the right, or faster, etc.—from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction—i.e., a lower value, toward the left, or slower, etc.—from its current setting, select a negative (-) value. Higher numbers produce a greater amount of change.

Making Chorus Settings

The XV-5080's Chorus effect unit can also be used as a stereo delay unit.

These settings allow you to select chorus or delay, the characteristics of the selected effect type, and the Chorus output routing.

On the Effects General page, set the following parameters.

Chorus Type

0 (Off): Neither Chorus or Delay is used.

1 (Chrus): Chorus is used.

2 (Delay): Delay is used.

Chorus Source PRF/P1–32

Set this when assigning chorus settings that are used by another part. Select PRF when using the Performance's chorus settings. When using the chorus settings assigned to one of the parts, select the part number (P1–32).

Chorus Output Select

This parameter allows you to send the Chorus output directly to the currently selected OUTPUT jacks, to the Reverb, or to both.

MAIN: The Chorus output is sent only to the OUTPUT jacks.

Chorus Input → Chorus → OUTPUT

REV: The Chorus output is sent only to the Reverb.

Chorus Input → Chorus → Reverb → OUTPUT

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Input → Chorus → OUTPUT
Reverb Input → Reverb → OUTPUT

Chorus Level 0–127

Determines the Chorus output level.

Chorus Output Assign A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "M+R."

Pressing [F4 (Chorus)] in the General page calls up the Chorus page, in which you can make the following settings.

• For Type: 1 (CHORUS)

Rate (Chorus Rate) 0.05–10.00 Hz

Adjusts the modulation speed of the chorus effect.

Depth (Chorus Depth) 0–127

Adjusts the modulation depth of the chorus effect.

Feedback (Chorus Feedback) 0–127

Specifies the amount of the chorus effect's output to be returned - fed back - to its input. Higher settings will create a more complex Chorus effect.

Phase 0–180 degree

Adjusts the spatial spread of the sound.

Pre Delay (Chorus Pre Delay) 0.0–100 ms

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Higher settings will make the sound more spacious.

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: Frequencies higher than the selected cutoff frequency value are eliminated.

HPF: Frequencies lower than the selected cutoff frequency value are eliminated.

Cutoff freq (Cutoff Frequency) *1

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

*1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

• For Type: 2 (DELAY)

Center (Delay Center) 200–1000 ms, Note

Sets the delay time for the delay located at the center of the stereo field.

Left (Delay Left) 200–1000 ms, Note

Sets the delay time for the delay located at the left side of the stereo field.

Right (Delay Right) 200–1000 ms, Note

Sets the delay time for the delay located at the right side of the stereo field.

HF Damp *1

This allows you to reduce, or "damp," the high-frequency content of the repeated feedback delays—frequencies above the selected value will be damped. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

*1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback -98– +98%

Adjusts the amount of delay feedback, controlling the number of times the delay repeats. With negative (-) values, the phase of the repeated delays is inverted.

Center (Delay Center Level) 0–127

Sets the volume level of the delay located at the center of the stereo field.

Left (Delay Left Level) 0–127

Sets the volume level of the delay located at the left side of the stereo field.

Right (Delay Right Level) 0–127

Sets the volume level of the delay located at the right side of the stereo field.

Making Reverb Settings

These settings allow you to select the desired type of Reverb, its characteristics, and the pair of OUTPUT jacks to which the Reverb unit's stereo output is routed.

On the Effects General page, set the following parameters.

Reverb Type

Selects the type of Reverb.

0 (Off): Reverb is not used.

1 (Revrb): Normal Reverb

2 (Room): This reverb simulates typical room acoustic reflections.

3 (Hall): This reverb simulates typical concert hall acoustic reflections.

4 (Plate): This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using SRV PLATE.

Reverb Source

Set this when assigning reverb settings that are used by another part. Select PRF when using the Performance's reverb settings. When using the reverb settings assigned to one of the parts, select the part number (P1–32).

Reverb Level 0–127

Specifies the output level of the Reverb.

Reverb Output Assign A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

Pressing [F5 (Reverb)] in the General page calls up the Reverb page, in which you can make the following settings.

• For Type: 1 (REVERB)

Type (Reverb/Delay Type)

Selects a type of reverb or delay.

ROOM1: This is a short reverb with high density.

ROOM2: This is a short reverb with low density.

STAGE1: This is a reverb with greater late reverberation.

STAGE2: This is a reverb with strong early reflections.

HALL1: This is a very clear-sounding reverb.

HALL2: This is a rich reverb.

DELAY: This is a conventional delay effect.

PAN-DELAY: This is a delay effect with echoes that pan left and right.

Time (Reverb/Delay Time) 0–127

When the Type setting is ROOM1–HALL2, this adjusts the length of reverberation. When the Type setting is DELAY or PAN-DELAY, this adjusts the delay time.

Higher settings produce a more spacious ambience.

HF Damp (Reverb/Delay HF Damp) *1

Specifies the frequency above which the high-frequency content of the reverb sound will be cut, or "damped."

Lower values cause a greater range of high frequencies to be cut, producing a softer reverb sound. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

> *1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback (Delay Feedback)

When the Type setting is DELAY or PAN-DELAY, this adjust the amount of delay feedback, controlling the number of delay repeats.

Higher settings will produce more delay repeats.

• For Type: 2 (SRV ROOM)/3 (SRV HALL)/4 (SRV PLATE)

Pre Delay (Pre Delay Time) 0.0–100 ms

Adjusts the time delay from when the direct sound begins until the reverb sound is heard.

Time (Reverb Time) 0–127

Adjusts the time length of reverberation.

Size 1–8

Adjusts the size of the simulated room or hall. The size becomes bigger as the value increases.

High Cut (High Cut Frequency) *1

Sets the frequency above which the high-frequency content of the reverb will be reduced. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Density (Reverb Density) 0–127

Adjusts the density of reverb. Higher values result in greater density.

Diffusion (Reverb Diffusion) 0–127

Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)

LF Damp Freq (LF Damp Frequency) *2

Specifies the frequency below which the low-frequency content of the reverb sound will be reduced, or "damped."

LF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with LF Damp. With a setting of "0," there will be no reduction of the reverb's low-frequency content.

HF Damp Freq (LF Damp Frequency) *3

Specifies the frequency above which the high-frequency content of the reverb sound will be reduced, or "damped."

HF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with HF Damp. With a setting of "0," there will be no reduction of the reverb's high-frequency content.

*1   160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12500 Hz, BYPASS

*2   50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000 Hz

*3   4000, 5000, 6400, 8000, 10000, 12500 Hz

Rhythm Set Mode Settings

You can apply Multi-effects, Chorus or Reverb to each of a Rhythm Set's Tones. You can control the amount of effect to be applied to each Rhythm Tone by adjusting its send level to the Multi-effects, Chorus and Reverb.
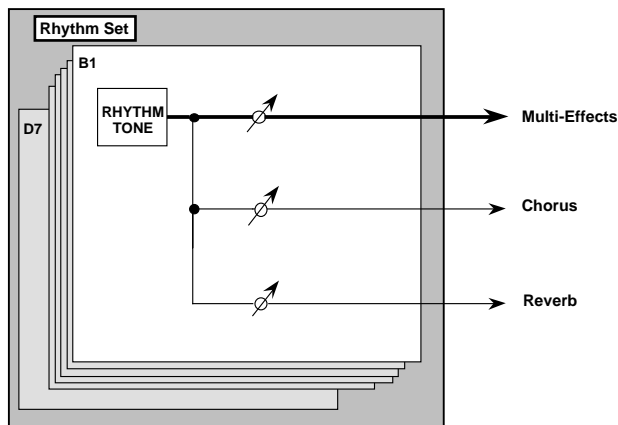
The primary role of the effect settings is to determine the Rhythm Tone Output Assign.

You can select from the following Rhythm Tone Output Assign settings values to suit your purposes.

MFX: Selected when Multi-effects, chorus, and reverb are used.

A-D: Selected when outputting in stereo without use of the Multi-effects. Chorus and reverb can be used.

1-8: Selected when outputting in mono without Multi-effects. Chorus and reverb can be used. When this setting is used, chorus and reverb sounds are output in stereo according to the Chorus Output Assign and Reverb Output Assign settings.

The screen appears as shown below, according to the settings values.

• For MFX
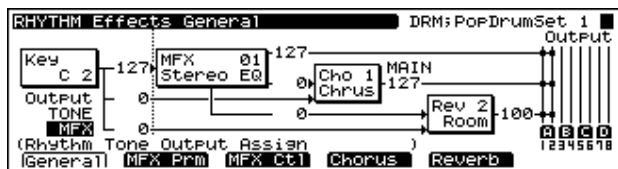
• For A–D
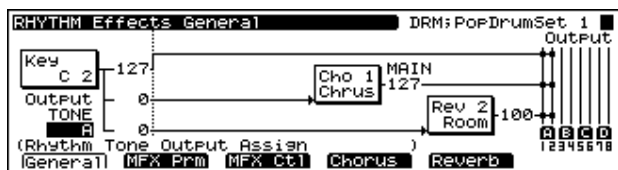
• For 1–8
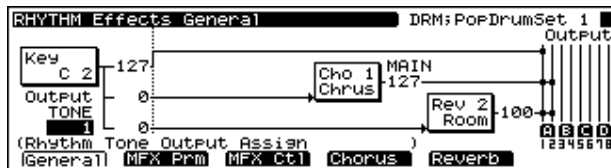
The following shows the basic setting procedure.

1. Select the Rhythm Tone you wish to set.

2. Press [F6 (Effects)].

The Patch Effect page appears.

3. Press [F1 (General)].

The General page will appear.

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

* *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the value the parameter originally had.*

6. Repeat Steps 3 to 5 to set the Effect.

7. Press [EXIT] to return to the RHYTHM Play page.

A "*" symbol will appear at the left of the Rhythm Set name, indicating that its settings have been modified.

* *If you turn off the power or select another Rhythm Set while the "*" symbol is displayed, your new Rhythm Set settings will be lost. If you wish to keep them, perform the Write operation. (p. 194)*

* *When [MFX], [CHO], or [REV] are turned off, effects processors that are turned off will be indicated by a dashed outline in the General page.*

Routing Tones to Effects

This sets the output destination and level for the currently selected Tone, as well as its send level with respect to the Chorus and Reverb.

On the Effects General page, set the following parameters.

Rhythm Tone Output Assign

MFX: The Tone is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

A–D: The Tone is sent to one of the four output-jack stereo pairs, OUTPUTS A–D.

1–8: The Tone is sent to the INDIVIDUAL output jacks 1–8.

Rhythm Tone Dry Send Level

Range: 0–127

This sets the level of the signal sent to the output destination set with Rhythm Output Assign.

Rhythm Tone Chorus Send Level 0–127

Sets how much of the Tone is sent to the Chorus.

Rhythm Tone Reverb Send Level 0–127

Sets how much of the Tone is sent to the Reverb.

Making Multi-Effects Settings

This page allows you to make various settings for the Multi-effects, including the type, the parameters, and the output assignments

On the Effects General page, set the following parameters.

MFX Type (Multi-effects Type)

Use this parameter to select from among the 90 available Multi-effects. For a description of these effects, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

MFX Dry Send Level 0–127

Determines the level of the signal that is to be sent to the output jacks, after passing through the Multi-effects.

MFX Chorus Send Level 0–127

Determines the level of the signal that is to be sent to Chorus, after passing through the Multi-effects.

MFX Reverb Send Level 0–127

Determines the level of the signal that is to be sent to Reverb, after passing through the Multi-effects.

MFX Output Assign A–D

Specifies the OUTPUT jacks to which the signal, after it has passed through the Multi-effects, is to be routed.

Pressing [F2 (MFX Prm)] in the Effects General page calls up the MFX Param page, in which you can make the following settings.

MFX A–C Parameters

These parameters allow you to customize the selected Multi-Effect. For a description of the parameters, check out "Parameters for Each Multi-Effect (MFX TYPE)" (p. 41).

Pressing [F3 (MFX Ctl)] in the Effects General page calls up the MFX Control page, in which you can make the following settings.

MFX Control 1–4 Source

Select the Control Source to be used for changing the Multi-effects parameters, and set the Sens and parameters to be changed by that Control Source.

OFF: No controller is used.

CC01–95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL 1–4: System control 1–4

MFX Control Destination 1–4

Selects the Multi-effects parameter to be controlled using the MFX Control 1–4 source. The parameters that can be selected depend on which type of Multi-effects is set to MFX Type.

MFX Control 1–4 Sens -63– +63

If you wish to modify the selected parameter in a positive (+) direction—i.e., a higher value, toward the right, or faster, etc.—from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction—i.e., a lower value, toward the left, or slower, etc.—from its current setting, select a negative (-) value. Higher numbers produce a greater amount of change.

Making Chorus Settings

The XV-5080's Chorus effect unit can also be used as a stereo delay unit.

These settings allow you to select chorus or delay, the characteristics of the selected effect type, and the Chorus output routing.

On the Effects General page, set the following parameters.

Chorus Type

0 (Off): Neither Chorus or Delay is used.

1 (Chrus): Chorus is used.

2 (Delay): Delay is used.

Chorus Output Select

This parameter allows you to send the Chorus output directly to the currently selected OUTPUT jacks, to the Reverb, or to both.

MAIN: The Chorus output is sent only to the OUTPUT jacks.

REV: The Chorus output is sent only to the Reverb.

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Level 0–127

Determines the Chorus output level.

Chorus Output Assign A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "M+R."

Pressing [F4 (Chorus)] in the General page calls up the Chorus page, in which you can make the following settings.

• For Type: 1 (CHORUS)

Rate (Chorus Rate) 0.05–10.00 Hz

Adjusts the modulation speed of the chorus effect.

Depth (Chorus Depth) 0–127

Adjusts the modulation depth of the chorus effect.

Feedback (Chorus Feedback) 0–127

Specifies the amount of the chorus effect's output to be returned - fed back - to its input. Higher settings will create a more complex Chorus effect.

Phase 0–180 degree

Adjusts the spatial spread of the sound.

Pre Delay (Chorus Pre Delay) 0.0–100 ms

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Higher settings will make the sound more spacious.

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: Frequencies higher than the selected cutoff frequency value are eliminated.

HPF: Frequencies lower than the selected cutoff frequency value are eliminated.

Cutoff freq (Cutoff Frequency) *1

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

*1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

• For Type: 2 (DELAY)

Center (Delay Center) 200–1000 ms, Note

Sets the delay time for the delay located at the center of the stereo field.

Left (Delay Left) 200–1000 ms, Note

Sets the delay time for the delay located at the left side of the stereo field.

Right (Delay Right) 200–1000 ms, Note

Sets the delay time for the delay located at the right side of the stereo field.

HF Damp *1

This allows you to reduce, or "damp," the high-frequency content of the repeated feedback delays—frequencies above the selected value will be damped. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

> *1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback -98– +98%

Adjusts the amount of delay feedback, controlling the number of times the delay repeats. With negative (-) values, the phase of the repeated delays is inverted.

Center (Delay Center Level) 0–127

Sets the volume level of the delay located at the center of the stereo field.

Left (Delay Left Level) 0–127

Sets the volume level of the delay located at the left side of the stereo field.

Right (Delay Right Level) 0–127

Sets the volume level of the delay located at the right side of the stereo field.

Making Reverb Settings

These settings allow you to select the desired type of Reverb, its characteristics, and the pair of OUTPUT jacks to which the Reverb unit's stereo output is routed.

On the Effects General page, set the following parameters.

Reverb Type

Selects the type of Reverb.

0 (Off): Reverb is not used.

1 (Revrb): Normal Reverb

2 (Room): This reverb simulates typical room acoustic reflections.

3 (Hall): This reverb simulates typical concert hall acoustic reflections.

4 (Plate): This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using SRV PLATE.

Reverb Level 0–127

Specifies the output level of the Reverb.

Reverb Output Assign A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

Pressing [F5 (Reverb)] in the General page calls up the Reverb page, in which you can make the following settings.

• For Type: 1 (REVERB)

Type (Reverb/Delay Type)

Selects a type of reverb or delay.

ROOM1: This is a short reverb with high density.

ROOM2: This is a short reverb with low density.

STAGE1: This is a reverb with greater late reverberation.

STAGE2: This is a reverb with strong early reflections.

HALL1: This is a very clear-sounding reverb.

HALL2: This is a rich reverb.

DELAY: This is a conventional delay effect.

PAN-DELAY: This is a delay effect with echoes that pan left and right.

Time (Reverb/Delay Time) 0–127

When the Type setting is ROOM1–HALL2, this adjusts the length of reverberation. When the Type setting is DELAY or PAN-DELAY, this adjusts the delay time.

Higher settings produce a more spacious ambience.

HF Damp (Reverb/Delay HF Damp) *1

Specifies the frequency above which the high-frequency content of the reverb sound will be cut, or "damped."

Lower values cause a greater range of high frequencies to be cut, producing a softer reverb sound. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

> *1   200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
> 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback (Delay Feedback)

When the Type setting is DELAY or PAN-DELAY, this adjust the amount of delay feedback, controlling the number of delay repeats.

Higher settings will produce more delay repeats.

• For Type: 2 (SRV ROOM)/3 (SRV HALL)/4 (SRV PLATE)

Pre Delay (Pre Delay Time) 0.0–100 ms

Adjusts the time delay from when the direct sound begins until the reverb sound is heard.

Time (Reverb Time) 0–127

Adjusts the time length of reverberation.

Size 1–8

Adjusts the size of the simulated room or hall. The size becomes bigger as the value increases.

High Cut (High Cut Frequency) *1

Sets the frequency above which the high-frequency content of the reverb will be reduced. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Density (Reverb Density) 0–127

Adjusts the density of reverb. Higher values result in greater density.

Diffusion (Reverb Diffusion) 0–127

Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)

LF Damp Freq (LF Damp Frequency) *2

Specifies the frequency below which the low-frequency content of the reverb sound will be reduced, or "damped."

LF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with LF Damp. With a setting of "0," there will be no reduction of the reverb's low-frequency content.

HF Damp Freq (LF Damp Frequency) *3

Specifies the frequency above which the high-frequency content of the reverb sound will be reduced, or "damped."

HF Damp Gain -36–0 dB

Adjusts the amount of damping applied to the frequency range selected with HF Damp. With a setting of "0," there will be no reduction of the reverb's high-frequency content.

> *1   160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600,
> 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12500
> Hz, BYPASS

> *2   50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800,
> 1000, 1250, 1600, 2000, 2500, 3200, 4000 Hz

> *3   4000, 5000, 6400, 8000, 10000, 12500 Hz

Settings in General MIDI Mode

Please refer to **Making Effects Settings ([F5 (Effects)])** (p. 227).

Parameters for Each Multi-Effects

The multi-effects feature 90 different kinds of effects. Some of the effects consist of two or more different effects connected in series or in parallel.

Parameters marked with a sharp "#" can be controlled using a specified controller (Two setting items will change simultaneously for "#1" and "#2"). (p. 26, p. 32, p. 37)

1:	STEREO EQ	(p. 44)
2:	OVERDRIVE	(p. 44)
3:	DISTORTION	(p. 45)
4:	PHASER	(p. 45)
5:	SPECTRUM	(p. 46)
6:	ENHANCER	(p. 46)
7:	AUTO WAH	(p. 47)
8:	ROTARY	(p. 47)
9:	COMPRESSOR	(p. 48)
10:	LIMITER	(p. 48)
11:	HEXA-CHORUS	(p. 49)
12:	TREMOLO CHORUS	(p. 49)
13:	SPACE-D	(p. 50)
14:	STEREO CHORUS	(p. 50)
15:	STEREO FLANGER	(p. 51)
16:	STEP FLANGER	(p. 52)
17:	STEREO DELAY	(p. 52)
18:	MODULATION DELAY	(p. 53)
19:	TRIPLE TAP DELAY	(p. 54)
20:	QUADRUPLE TAP DELAY	(p. 55)
21:	TIME CONTROL DELAY	(p. 56)
22:	2VOICE PITCH SHIFTER	(p. 56)
23:	FBK PITCH SHIFTER	(p. 57)
24:	REVERB	(p. 58)
25:	GATED REVERB	(p. 58)
26:	OVERDRIVE -> CHORUS	(p. 59)
27:	OVERDRIVE -> FLANGER	(p. 59)
28:	OVERDRIVE -> DELAY	(p. 60)
29:	DISTORTION -> CHORUS	(p. 60)
30:	DISTORTION -> FLANGER	(p. 60)
31:	DISTORTION -> DELAY	(p. 60)
32:	ENHANCER -> CHORUS	(p. 61)
33:	ENHANCER -> FLANGER	(p. 61)
34:	ENHANCER -> DELAY	(p. 62)
35:	CHORUS -> DELAY	(p. 62)
36:	FLANGER -> DELAY	(p. 63)

37:     CHORUS -> FLANGER(p. 63)

38:     CHORUS/DELAY(p. 64)

39:     FLANGER/DELAY(p. 64)

40:     CHORUS/FLANGER(p. 64)

41:     STEREO PHASER(p. 65)

42:     KEYSYNC FLANGER(p. 65)

43:     FORMANT FILTER(p. 66)

44:     RING MODULATOR(p. 67)

45:     MULTI TAP DELAY(p. 68)

46:     REVERSE DELAY(p. 69)

47:     SHUFFLE DELAY(p. 70)

48:     3D DELAY   (p. 70)

49:     3VOICE PITCH SHIFTER(p. 71)

50:     LOFI COMPRESS(p. 72)

51:     LOFI NOISE   (p. 72)

52:     SPEAKER SIMULATOR(p. 73)

53:     OVERDRIVE 2(p. 74)

54:     DISTORTION 2(p. 74)

55:     STEREO COMPRESSOR(p. 75)

56:     STEREO LIMITER(p. 75)

57:     GATE   (p. 76)

58:     SLICER   (p. 76)

59:     ISOLATOR   (p. 77)

60:     3D CHORUS   (p. 77)

61:     3D FLANGER(p. 78)

62:     TREMOLO   (p. 79)

63:     AUTO PAN   (p. 79)

64:     STEREO PHASER 2(p. 80)

65:     STEREO AUTO WAH(p. 81)

66:     ST FORMANT FILTER(p. 81)

67:     MULTI TAP DELAY 2(p. 82)

68:     REVERSE DELAY 2(p. 83)

69:     SHUFFLE DELAY 2(p. 83)

70:     3D DELAY 2 (p. 84)

71:     ROTARY 2   (p. 85)

72:     ROTARY MULTI(p. 86)

73:     KEYBOARD MULTI(p. 87)

74:     RHODES MULTI(p. 89)

75:     JD MULTI   (p. 90)

76:     STEREO LOFI COMPRESS(p. 91)

77:     STEREO LOFI NOISE(p. 92)

78:     GUITAR AMP SIMULATOR(p. 93)

79:     STEREO OVERDRIVE(p. 94)

80:     STEREO DISTORTION(p. 94)

81:     GUITAR MULTI A(p. 95)

82:     GUITAR MULTI B(p. 96)

83:     GUITAR MULTI C(p. 98)

84:     CLEAN GUITAR MULTI A(p. 99)

85:     CLEAN GUITAR MULTI B(p. 101)

86:     BASS MULTI (p. 102)

87:     ISOLATOR 2 (p. 104)

88:     STEREO SPECTRUM(p. 104)

89:     3D AUTO SPIN(p. 105)

90:     3D MANUAL(p. 105)

MEMO

To have the types displayed according to category (as shown below), press [PATCH FINDER] in the MFX Param page.

Modulation (Effects that modulate the sound)

4:      PHASER

7:      AUTO WAH

41:     STEREO PHASER

42:     KEYSYNC FLANGER

43:     FORMANT FILTER

44:     RING MODULATOR

64:     STEREO PHASER 2

65:     STEREO AUTO WAH

66:     ST FORMANT FILTER

Delay (Effects that delay the sound)

17:     STEREO DELAY

18:     MODULATION DELAY

19:     TRIPLE TAP DELAY

20:     QUADRUPLE TAP DELAY

21:     TIME CONTROL DELAY

22:     2VOICE PITCH SHIFTER

23:     FBK PITCH SHIFTER

34:     ENHANCER -> DELAY

45:     MULTI TAP DELAY

46:     REVERSE DELAY

47:     SHUFFLE DELAY

48:     3D DELAY

49:     3VOICE PITCH SHIFTER

67:     MULTI TAP DELAY 2

68:     REVERSE DELAY 2

69:     SHUFFLE DELAY 2

70:     3D DELAY 2

Keyboard (Effects useful for the keyboard)

08:     ROTARY

71:     ROTARY 2

72:     ROTARY MULTI

73:	KEYBOARD MULTI
74:	RHODES MULTI
75:	JD MULTI

LoFi (Effects that intentionally degrades the sound quality)

50:	LOFI COMPRESS
51:	LOFI NOISE
76:	STEREO LOFI COMPRESS
77:	STEREO LOFI NOISE

Guitar and Bass (Effects useful for the Guitar and Bass)

2:	OVERDRIVE
3:	DISTORTION
26:	OVERDRIVE -> CHORUS
27:	OVERDRIVE -> FLANGER
28:	OVERDRIVE -> DELAY
29:	DISTORTION -> CHORUS
30:	DISTORTION -> FLANGER
31:	DISTORTION -> DELAY
52:	SPEAKER SIMULATOR
53:	OVERDRIVE 2
54:	DISTORTION 2
78:	GUITAR AMP SIMULATOR
79:	STEREO OVERDRIVE
80:	STEREO DISTORTION
81:	GUITAR MULTI A
82:	GUITAR MULTI B
83:	GUITAR MULTI C
84:	CLEAN GUITAR MULTI A
85:	CLEAN GUITAR MULTI B
86:	BASS MULTI

Compressor (Effects in which the loudness becomes difficult to change)

9:	COMPRESSOR
10:	LIMITER
55:	STEREO COMPRESSOR
56:	STEREO LIMITER
57:	GATE
58:	SLICER

Chorus (Effects that broaden the sound)

11:	HEXA-CHORUS
12:	TREMOLO CHORUS
13:	SPACE-D
14:	STEREO CHORUS
15:	STEREO FLANGER
16:	STEP FLANGER

32:	ENHANCER -> CHORUS
33:	ENHANCER -> FLANGER
35:	CHORUS -> DELAY
36:	FLANGER -> DELAY
37:	CHORUS -> FLANGER
38:	CHORUS/DELAY
39:	FLANGER/DELAY
40:	CHORUS/FLANGER
60:	3D CHORUS
61:	3D FLANGER

Dimension (Effects that control the location of the sound)

62:	TREMOLO
63:	AUTO PAN
89:	3D AUTO SPIN
90:	3D MANUAL

Filter (Effects that modify the sound character)

1:	STEREO EQ
5:	SPECTRUM
6:	ENHANCER
59:	ISOLATOR
87:	ISOLATOR 2
88:	STEREO SPECTRUM

Reverb (Effects that reverberate the sound)

24:	REVERB
25:	GATED REVERB

1: STEREO EQ (Stereo Equalizer)

This is a four-band stereo equalizer (low, mid x 2, high).

L in ——→ [4-Band EQ] ——→ L out

R in ——→ [4-Band EQ] ——→ R out
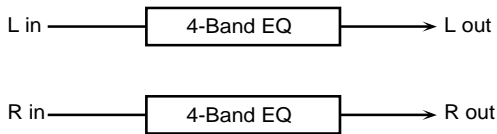
Freq/Gain

LowFreq (Low Frequency)

Select the frequency of the low range (200 Hz/400 Hz).

LowGain

Adjust the gain of the low frequency.

Mid1 Freq (Middle 1 Frequency)

Adjust the frequency of Middle 1 (mid range).

Mid1 Gain (Middle1 Gain)

Adjust the gain for the area specified by the Middle 1 Frequency and Q settings.

Mid2 Freq (Middle 2 Frequency)

Adjust the frequency of Middle 2 (mid range).

Mid2 Gain (Middle 2 Gain)

Adjust the gain for the area specified by the Middle 2 Frequency and Q settings.

High Freq (High Frequency)

Select the frequency of the high range (4000 Hz/8000 Hz).

High Gain

Adjust the gain of the high frequency.

Band Width

Mid1 Q (Middle 1 Q)

This parameter adjusts the width of the area around the Middle 1 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

Mid2 Q (Middle 2 Q)

This parameter adjusts the width of the area around the Middle 2 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

Output

Level (Output Level)

Adjust the output level.

2: OVERDRIVE

This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.

L in ——→ ⊕ →[Over drive]→[Amp Simulator]→[2-Band EQ]→ Pan L ——→ L out

R in ——→ Pan R ——→ R out

Overdrive

Drive

Adjust the degree of distortion. The volume will change together with the degree of distortion.

Amp Simulator

Type (Amp Simulator Type)

Select the type of guitar amp.
SMALL: small amp
BUILT-IN: single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

3: DISTORTION

This effect produces a more intense distortion than Overdrive.

Distortion

Drive

Adjust the degree of distortion. The volume will change together with the degree of distortion.

Amp Simulator

Type (Amp Simulator Type)

Select the type of guitar amp.
SMALL:small amp
BUILT-IN:single-unit type amp
2-STACK:large double stack amp
3-STACK:large triple stack amp

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

4: PHASER

A phaser adds a phase-shifted sound to the original sound, producing a twisting modulation that creates spaciousness and depth.

Phaser

Manual

Adjust the basic frequency from which the sound will be modulated.

Rate

Adjust the frequency (period) of modulation.

Depth

Adjust the depth of modulation.

Resonance

Adjust the amount of feedback for the phaser.

Mix Level

Adjust the ratio with which the phase-shifted sound is combined with the direct sound.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

5: SPECTRUM

Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies. It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.

Gain

250Hz (Band 1 Gain)

Adjust the 250 Hz level.

500Hz (Band 2 Gain)

Adjust the 500 Hz level.

1000Hz (Band 3 Gain)

Adjust the 1000 Hz level.

1250Hz (Band 4 Gain)

Adjust the 1250 Hz level.

2000Hz (Band 5 Gain)

Adjust the 2000 Hz level.

3150Hz (Band 6 Gain)

Adjust the 3150 Hz level.

4000Hz (Band 7 Gain)

Adjust the 4000 Hz level.

8000Hz (Band 8 Gain)

Adjust the 8000 Hz level.

Band Width

Q

Simultaneously adjust the width of the adjusted areas for all the frequency bands.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

6: ENHANCER

The Enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.
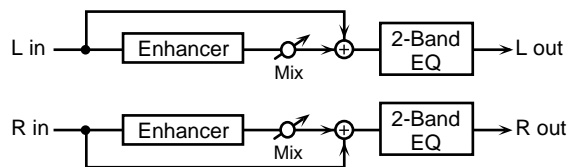
Enhancer

Sens (Sensitivity)

Adjust the sensitivity of the enhancer.

Mix Level

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Output

Level (Output Level)

Adjust the output level.

7: AUTO WAH

The Auto Wah cyclically controls a filter to create cyclic change in timbre.
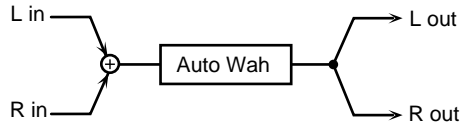
Auto Wah

Filter (Filter Type)

Select the type of filter.

LPF: The wah effect will be applied over a wide frequency range.

BPF: The wah effect will be applied over a narrow frequency range.

Sens

Adjust the sensitivity with which the filter is controlled.

Manual

Adjust the center frequency from which the effect is applied.

Peak

Adjust the amount of the wah effect that will occur in the area of the center frequency. Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range.

Rate (LFO Rate)#

Adjust the frequency of the modulation.

Depth (LFO Depth)

Adjust the depth of the modulation.

Output

Level (Output Level)

Adjust the output level.

8: ROTARY

The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past. Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.
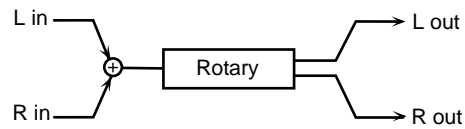
Rotary

Speed

Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor.

SLOW: Slow down the rotation to the specified speed (the Low Slow ∕ Hi Slow values).

FAST: Speed up the rotation to the specified speed (the Low Fast ∕ Hi Fast values).

For details refer to "**Using a Pedal Switch to Modify the Rotary Speed of the Rotary Effect (p. 220)**."

Woofer

Slow Rate (Low Frequency Slow Rate)

Adjust the slow speed (SLOW) of the low frequency rotor.

Fast Rate (Low Frequency Fast Rate)

Adjust the fast speed (FAST) of the low frequency rotor.

Acceleration (Low Frequency Acceleration)

Adjust the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.

Level (Low Frequency Level)

Adjust the volume of the low frequency rotor.

Separation

Separation

Adjust the spatial dispersion of the sound.

Tweeter

Slow Rate (High Frequency Slow Rate)

Adjust the slow speed (SLOW) of the high frequency rotor.

Fast Rate (High Frequency Fast Rate)

Adjust the fast speed (FAST) of the high frequency rotor.

Acceleration (High Frequency Acceleration)

Adjust the time it takes the high frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.

Level (High Frequency Level)

Adjust the volume of the high frequency rotor.

Output

Level (Output Level)

Adjust the output level.

9: COMPRESSOR

The Compressor flattens out high levels and boosts low levels, smoothing out unevenness in volume.
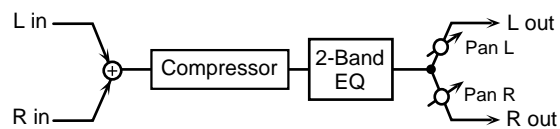
Compressor

Attack

Adjust the attack time of an input sound.

Sustain

Adjust the time over which low level sounds are boosted until they reach the specified volume.

Post Gain

Adjust the output gain.

EQ Gain

Low (LowGain)

Adjust the low frequency gain.

High (High Gain)

Adjust the high frequency gain.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

10: LIMITER

The Limiter compresses signals that exceed a specified volume level, preventing distortion from occurring.
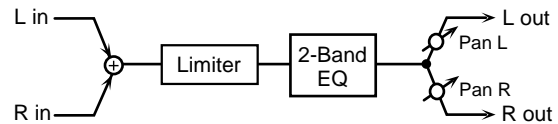
Limiter

Threshold (Threshold Level)

Adjust the volume at which compression will begin.

Ratio (Compression Ratio)

Adjust the compression ratio.

Release (Release Time)

Adjust the time from when the volume falls below the Threshold Level until compression is no longer applied.

Post Gain

Adjust the output gain.

EQ Gain

Low (LowGain)

Adjust the low frequency gain.

High (High Gain)

Adjust the high frequency gain.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

11: HEXA-CHORUS

Hexa-chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.
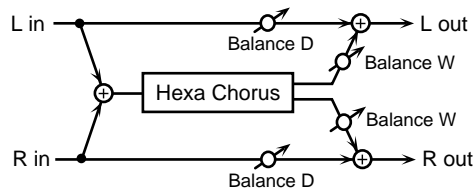
Hexa Chorus

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Depth Dev (Depth Deviation)

Adjust the difference in modulation depth between each chorus sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Pre Delay Dev (Pre Delay Deviation)

Pre Delay determines the time from when the direct sound begins until the processed sound is heard. Pre Delay Deviation adjusts the differences in Pre Delay between each chorus sound.

Pan Dev (Pan Deviation)

Adjust the difference in stereo location between each chorus sound. With a setting of 0, all chorus sounds will be in the center. With a setting of 20, each chorus sound will be spaced at 60 degree intervals relative to the center.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Output

Level (Output Level)

Adjust the output level.

12: TREMOLO CHORUS

Tremolo Chorus is a chorus effect with added Tremolo (cyclic modulation of volume).

Chorus

Rate (Chorus Rate)

Adjust the modulation speed of the chorus effect.

Depth (Chorus Depth)

Adjust the modulation depth of the chorus effect.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Tremolo

Rate (Tremolo Rate)

Adjust the modulation speed of the tremolo effect.

Phase (Tremolo Phase)

Adjust the spread of the tremolo effect.

Separation (Tremolo Separation)

Adjust the spread of the tremolo effect.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the tremolo chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the tremolo chorus sound will be output.

Output

Level (Output Level)

Adjust the output level.

13: SPACE-D

Space-D is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.

Chorus

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Phase

Adjust the spatial spread of the sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Output

Level (Output Level)

Adjust the output level.

14: STEREO CHORUS

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

Chorus

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Phase

Adjust the spatial spread of the sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Filter

Type (Filter Type)

Select the type of filter.

OFF:a filter will not be used

LPF:cut the frequency range above the cutoff frequency

HPF:cut the frequency range below the cutoff frequency

Cutoff (Cutoff Frequency)

Adjust the basic frequency of the filter.

EQ Gain

Low (LowGain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Output

Level (Output Level)

Adjust the output level.

15: STEREO FLANGER

This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.

Flanger

Rate (LFO Rate)

Adjust the rate of modulation.

Depth (LFO Depth)

Adjust the depth of modulation.

Feedback (Feedback Level)

Adjust the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase.

Phase

Adjust the spatial spread of the sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Filter

Type

Select the type of filter.

OFF: a filter will not be used

LPF: cut the frequency range above the cutoff frequency

HPF: cut the frequency range below the cutoff frequency

Cutoff (Cutoff Frequency)

Adjust the basic frequency of the filter.

EQ Gain

Low (LowGain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the flanger sound will be output.

Output

Level (Output Level)

Adjust the output level.

16: STEP FLANGER

The Step Flanger effect is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.

Flanger

Rate (LFO Rate)

Adjust the rate of modulation.

Depth (LFO Rate)

Adjust the depth of modulation.

Fbk (Feedback Level) #

Adjust the amount (%) of the flanger sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.

Feedback

Adjust the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase.

Phase

Adjust the spatial spread of the sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Step Rate

Step Rate

Adjust the rate (period) of pitch change. This parameter can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

EQ Gain

Low (LowGain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Output

Level (Output Level)

Adjust the output level.

17: STEREO DELAY

This is a stereo delay.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Delay

Left (Delay Time Left)

Adjust the time from the original sound until when the left delay sound is heard.

Right (Delay Time Right)

Adjust the time from the original sound until when the right delay sound is heard.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high

frequencies of the feedback, set this parameter to BYPASS.

Feedback

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

FBK Mode (Feedback Mode)

Select the way in which delay sound is fed back into the effect.

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.

CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Phase

Phase Left

Select the phase of the left delay sound.
NORMAL: Phase is not changed.
INVERT: Phase is inverted.

Phase Right

Select the phase of the right delay sound.
NORMAL: Phase is not changed.
INVERT: Phase is inverted.

EQ Gain

Low (LowGain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Output

Level (Output Level)

Adjust the output level.

18: MODULATION DELAY

This effect adds modulation to the delayed sound, producing an effect similar to a flanger.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Delay

Left (Delay Time Left)

Adjust the time from the original sound until when the left delay sound is heard.

Right (Delay Time Right)

Adjust the time from the original sound until when the right delay sound is heard.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Feedback (Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

FBK Mode (Feedback Mode)

Select the way in which delay sound is fed back into the effect.

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.

CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Modulation

Rate

Adjust the speed of the modulation.

Depth

Adjust the depth of the modulation.

Phase

Adjust the spatial spread of the sound.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the modulation delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the modulation delay sound will be output.

Output

Level (Output Level)

Adjust the output level.

19: TRIPLE TAP DELAY

The Triple Tap Delay produces three delay sounds; center, left and right. The center delay time can be specified as a note value of a specified tempo.
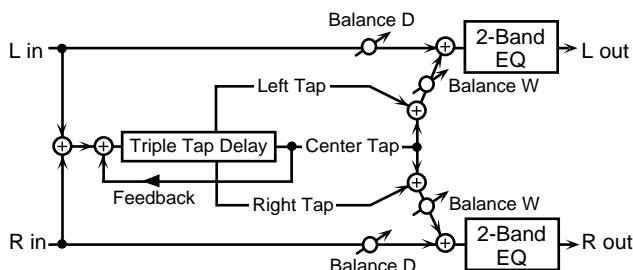
Delay

Center (Delay Time Center)

Left (Delay Time Left)

Right (Delay Time Right)

Adjust the time delay from the direct sound until when the delay sound is heard. This parameter can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Feedback

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Delay Level

Center (Center Level)

Left (Left Level)

Right (Right Level)

Adjust the volume of each delay sound.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Output

Level (Output Level)

Adjust the output level.

20: QUADRUPLE TAP DELAY

The Quadruple Tap Delay has four delays. Each of the Delay Time parameters can be specified as a note length of the selected tempo.
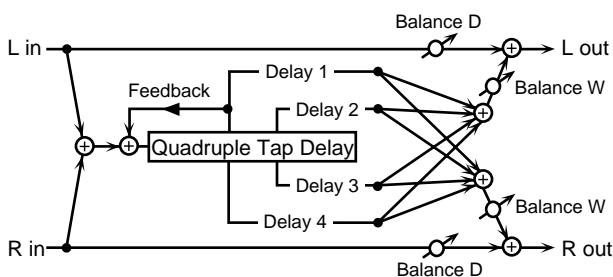
The stereo location of each delay sound is as follows.
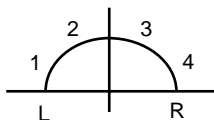
Delay

Delay 1 (Delay Time 1)

Delay 2 (Delay Time 2)

Delay 3 (Delay Time 3)

Delay 4 (Delay Time 4)

Adjust the time delay from the direct sound until when each delay sound is heard. These parameters can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Feedback (Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Delay Level

Level 1

Level 2

Level 3

Level 4

Adjust the volume of each delay sound.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Output

Level (Output Level)

Adjust the output level.

21: TIME CONTROL DELAY

This effect allows you to use a specified controller (the controller selected in EFX Control Source) to control the delay time and pitch in realtime. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.

For details refer to "**Changing the Multi-Effects Settings From an External MIDI Device** (p. 217)."
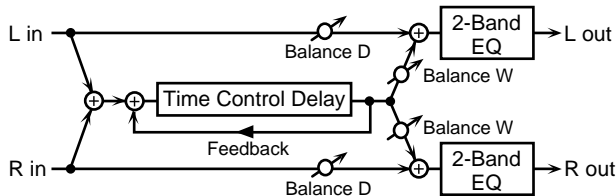
Delay

Time (Delay time)

Adjust the time delay from the direct sound until when each delay sound is heard.

Acceleration

This parameter adjusts the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Feedback

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the delay sound. L64 is far left, 0 is center, and 63R is far right.

22: 2VOICE PITCH SHIFTER

A Pitch Shifter shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.

Pitch A

Coarse (Coarse Pitch A) #1

Adjust the pitch of Pitch Shift A in semitone steps (-2-+1 octaves).

Fine (Fine Pitch A) #1

Make fine adjustments to the pitch of Pitch Shift A in 2-cent steps (-100-+100 cents).

One cent is 1/100th of a semitone.

Pan (Output Pan A)

Adjust the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center, and 63R is far right.

Pre Delay (Pre Delay Time A)

Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

Pitch shift

Mode (Pitch Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Pitch B

Coarse (Coarse Pitch B) #2

Adjust the pitch of Pitch Shift B in semitone steps (-2-+1 octaves).

Fine (Fine Pitch B) #2

Make fine adjustments to the pitch of Pitch Shift B in 2-cent steps (-100-+100 cents).

One cent is 1/100th of a semitone.

Pan (Output Pan B)

Adjust the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center, and 63R is far right.

Pre Delay (Pre Delay Time B)

Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

Level Balance

Level Balance

Adjust the volume balance between the Pitch Shift A and Pitch Shift B sounds.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output.

Output

Level (Output Level)

Adjust the output level.

23: FBK PITCH SHIFTER

(Feedback Pitch Shifter)

This pitch shifter allows the pitch shifted sound to be fed back into the effect.
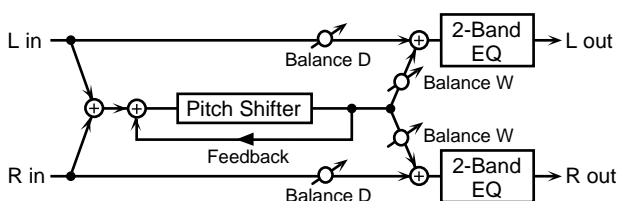
Pitch

Coarse (Coarse Pitch) #1

Adjust the pitch of the pitch shifted sound in semitone steps (-2-+1 octaves).

Fine (Fine Pitch) #1

Make fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100-+100 cents).

One cent is 1/100th of a semitone.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the pitch shifted sound is heard.

Mode (Pitch Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Feedback (Feedback Level)

Adjust the proportion (%) of the pitch shift sound that is fed back into the effect. Negative (-) settings will invert the phase.

EQ Gain

Low (LowGain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output.
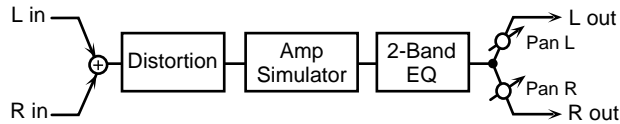
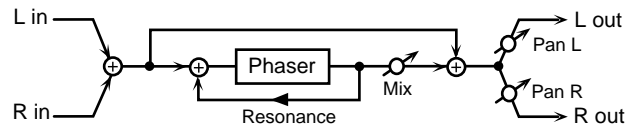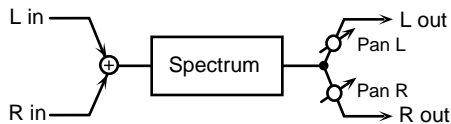## Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the pitch shifted sound. L64 is far left, 0 is center, and 63R is far right.

24: REVERB

The Reverb effect adds reverberation to the sound, simulating an acoustic space.
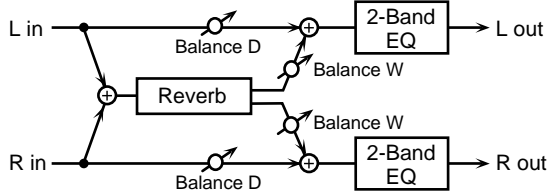
Reverb

Type (Reverb Type)

Select the type of Reverb effect.

ROOM1: dense reverb with short decay

ROOM2: sparse reverb with short decay

STAGE1: reverb with greater late reverberation

STAGE2: reverb with strong early reflections

HALL1: reverb with clear reverberance

HALL2: reverb with rich reverberance

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Time (Reverb Time)

Adjust the time length of reverberation.

HF Damp

Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output.

Output

Level (Output Level)

Adjust the output level.

25: GATED REVERB

Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.
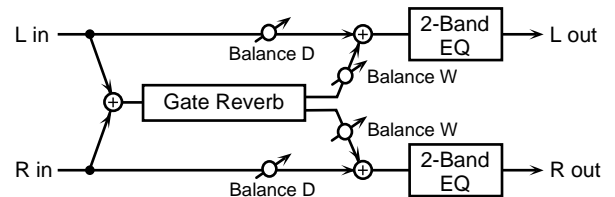
Reverb

Type (Gate Reverb Type)

Select the type of reverb.

NORMAL: conventional gate reverb

REVERSE: backwards reverb

SWEEP1: the reverberant sound moves from right to left

SWEEP2: the reverberant sound moves from left to right

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Gate Time

Adjust the time from when the reverb is heard until when it disappears.

EQ Gain

Low (Low Gain)

Adjust the gain of the low frequency range.

High (High Gain)

Adjust the gain of the high frequency range.

## Balance

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output.

Output

Level (Output Level)

Adjust the output level.

26: OVERDRIVE→CHORUS

This effect connects an overdrive and a chorus in series.
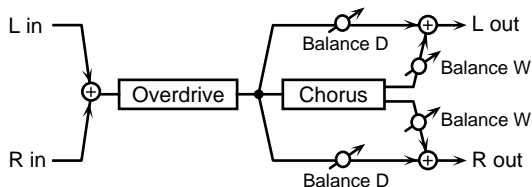
Overdrive

Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Overdrive Pan)

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Chorus

Pre Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Rate (Chorus Rate)

Adjust the modulation speed of the chorus effect.

Depth (Depth Rate)

Adjust the modulation depth of the chorus effect.

Balance (Chorus Balance)

Adjust the volume balance between the overdrive sound that is sent through the chorus and the overdrive sound that is not sent through the chorus. With a setting of "D100: 0W," only the overdrive sound will be output. With a setting of "D0: 100W," only the overdrive sound that is sent through the chorus will be output.

Output

Level (Output Level)

Adjust the output level.

27: OVERDRIVE→FLANGER

This effect connects an overdrive and a flanger in series.
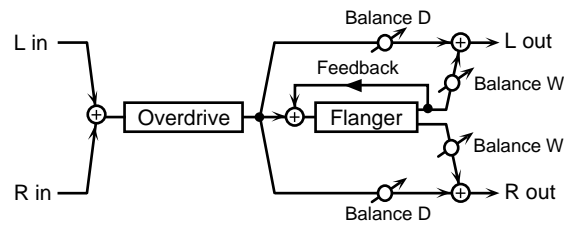
Overdrive

Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Overdrive Pan)

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Flanger

Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Feedback (Flanger Feedback)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger Balance)

Adjust the volume balance between the overdrive sound that is sent through the flanger and the overdrive sound that is not sent through the flanger. With a setting of "D100: 0W," only the overdrive sound will be output. With a setting of "D0: 100W," only the overdrive sound that is sent through the flanger will be output.

Output

Level (Output Level)

Adjust the output level.

28: OVERDRIVE→DELAY

This effect connects an overdrive and a delay in series.
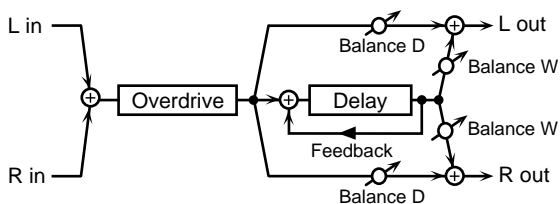
Overdrive

Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Overdrive Pan)

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Delay

Time (Delay Time)

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Feedback (Delay Feedback)

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

HF Damp (Delay HF Damp)

Adjust the frequency above which delayed sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Balance (Delay Balance)

Adjust the volume balance between the overdrive sound that is sent through the delay and the overdrive sound that is not sent through the delay. With a setting of "D100: 0W," only the overdrive sound will be output. With a setting of "D0: 100W," only the overdrive sound that is sent through the delay will be output.

Output

Level (Output Level)

Adjust the output level.

29: DISTORTION→CHORUS

This effect connects distortion and chorus in series. The parameters are essentially the same as "26: OVERDRIVE?CHORUS," with the exception of the following two.

Drive → Specify the amount of distortion.

Pan → Specify the stereo location of the distortion sound.
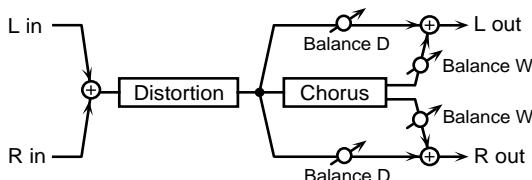
30: DISTORTION→FLANGER

This effect connects distortion and flanger in series. The parameters are essentially the same as in "27: OVERDRIVE?FLANGER," with the exception of the following two.

Drive → Specify the amount of distortion.

Pan → Specify the stereo location of the distortion sound.
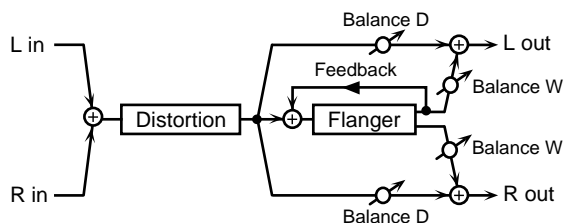
31: DISTORTION→DELAY

This effect connects distortion and delay in series. The parameters are essentially the same as in "28: OVERDRIVE?DELAY," with the exception of the following two.

Drive → Specify the amount of distortion.

Pan → Specify the stereo location of the distortion sound.
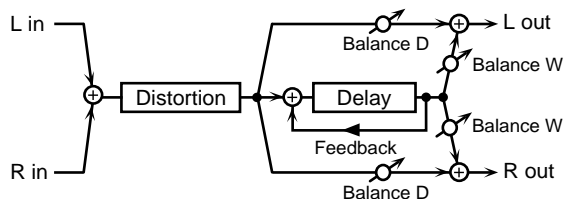
32: ENHANCER→CHORUS

This effect connects an enhancer and a chorus in series.
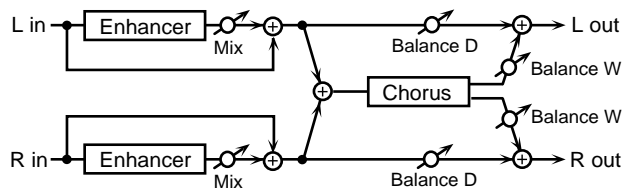
Enhancer

Sens (Enhancer Sens)

Adjust the sensitivity of the enhancer.

Mix Level (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Chorus

Pre Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Rate (Chorus Rate)

Adjust the modulation speed of the chorus effect.

Depth (Chorus Depth)

Adjust the modulation depth of the chorus effect.

Balance (Chorus Balance)

Adjust the volume balance between the enhancer sound that is sent through the chorus and the enhancer sound that is not sent through the chorus. With a setting of "D100: 0W," only the enhancer sound will be output. With a setting of "D0: 100W," only the enhancer sound that is sent through the chorus will be output.

Output

Level (Output Level)

Adjust the output level.

33: ENHANCER→FLANGER

This effect connects an enhancer and a flanger in series.
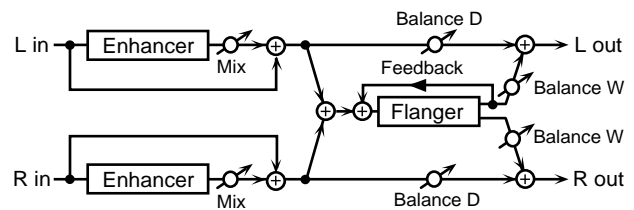
Enhancer

Sens

Adjust the sensitivity of the enhancer.

Mix Level (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Flanger

Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger Balance)

Adjust the volume balance between the enhancer sound that is sent through the flanger and the enhancer sound that is not sent through the flanger. With a setting of "D100: 0W," only the enhancer sound will be output. With a setting of "D0: 100W," only the enhancer sound that is sent through the flanger will be output.

Output

Level (Output Level)

Adjust the output level.

34: ENHANCER→DELAY

This effect connects an enhancer and a delay in series.
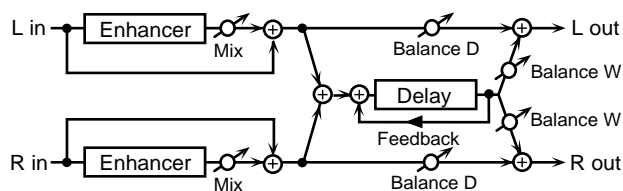
Enhancer

Sens

Adjust the sensitivity of the enhancer.

Mix Level (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Delay

Time (Delay Time)

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Feedback (Delay Feedback)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp (Delay HF Damp)

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to BYPASS.

Balance (Delay Balance)

Adjust the volume balance between the enhancer sound that is sent through the delay and the enhancer sound that is not sent through the delay. With a setting of "D100: 0W," only the enhancer sound will be output. With a setting of "D0: 100W," only the enhancer sound that is sent through the delay will be output.

Output

Level (Output Level)

Adjust the output level.

35: CHORUS→DELAY

This effect connects a chorus and a delay unit in series.

Chorus

Pre Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Rate (Chorus Rate)

Adjust the modulation speed of the chorus effect.

Depth (Chorus Depth)

Adjust the modulation depth of the chorus effect.

Balance (Chorus Balance)

Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100: 0W," only the direct sound will be output. With a setting of "D0: 100W," only the chorus sound will be output.
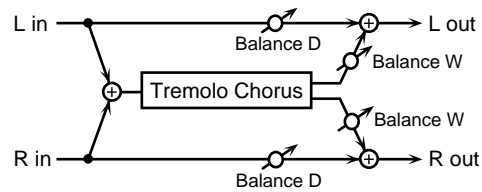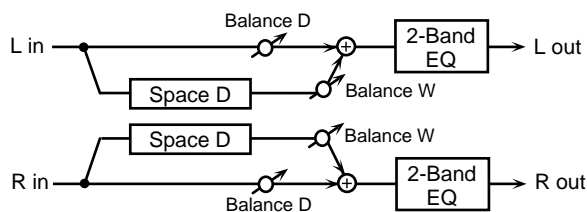
Delay

Time (Delay Time)

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Feedback (Delay Feedback)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp (Delay HF Damp)

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Balance (Delay Balance)

Adjust the volume balance between the chorus sound that is sent through the delay and the chorus sound that is not sent through the delay. With a setting of "D100: 0W," only the chorus sound will be output. With a setting of "D0: 100W," only the chorus sound that is sent through the delay will be output.

Output

Level (Output Level)

Adjust the output level.

36: FLANGER→DELAY

This effect connects a flanger and a delay in series.

Flanger

Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Feedback (Flanger Feedback)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger Balance)

Adjust the volume balance between the direct sound and the flanger sound. With a setting of "D100: 0W," only the direct sound will be output. With a setting of "D0: 100W," only the flanger sound will be output.

Delay

Time (Delay Time)

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Feedback (Delay Feedback)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp (Delay HF Damp)

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to

BYPASS.

Balance

Adjust the volume balance between the flanger sound that is sent through the delay and the flanger sound that is not sent through the delay. With a setting of "D100: 0W," only the flanger sound will be output. With a setting of "D0: 100W," only the flanger sound that is sent through the delay will be output.

Output

Level (Output Level)

Adjust the output level.

37: CHORUS→FLANGER

This effect connects a chorus and a flanger in series.
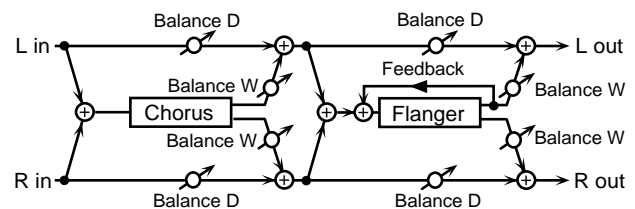
Chorus

Pre Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Rate (Chorus Rate)

Adjust the modulation speed of the chorus effect.

Depth (Chorus Depth)

Adjust the modulation depth of the chorus effect.

Balance (Chorus Balance)

Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100: 0W," only the direct sound will be output. With a setting of "D0: 100W," only the chorus sound will be output.
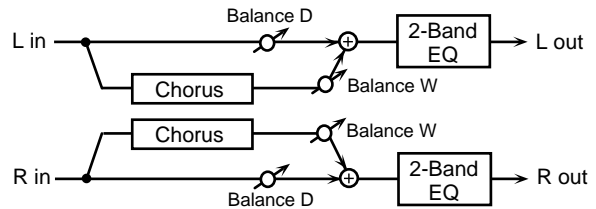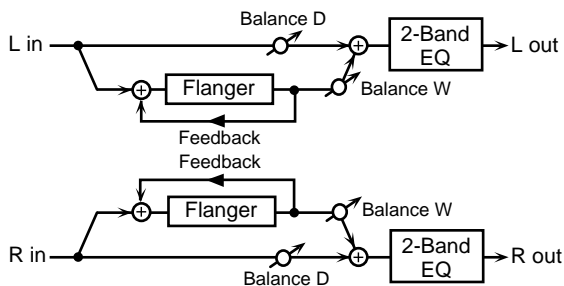
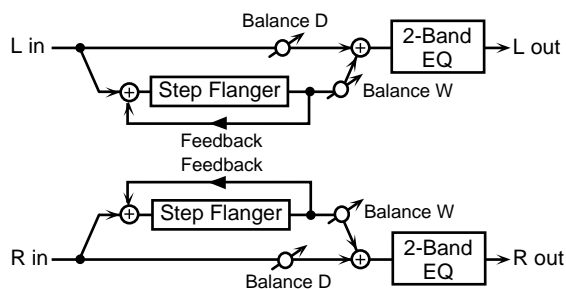## Flanger

Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger Balance)

Adjust the volume balance between the chorus sound and the chorus sound that is passed through the flanger. With a setting of "D100: 0W," only the chorus sound will be output. With a setting of "D0: 100W," only the chorus sound that passes through the flanger will be output.

Output

Level (Output Level)

Adjust the output level.

38: CHORUS/DELAY

This effect connects a chorus and a delay in parallel. The parameters are the same as for "35: CHORUS→DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.
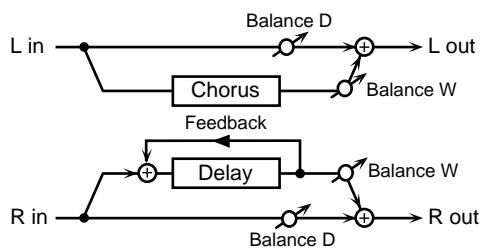
39: FLANGER/DELAY

This effect connects a flanger and a delay in parallel. The parameters are the same as for "36: FLANGER→DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.
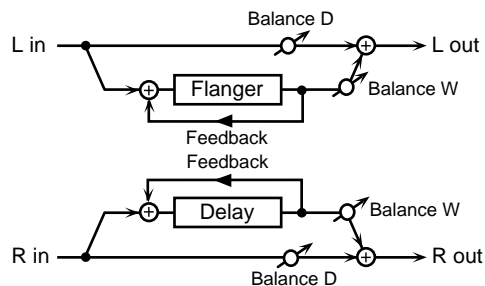
40: CHORUS/FLANGER

This effect connects a chorus and a flanger in parallel. The parameters are the same as for "37: CHORUS→FLANGER." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.
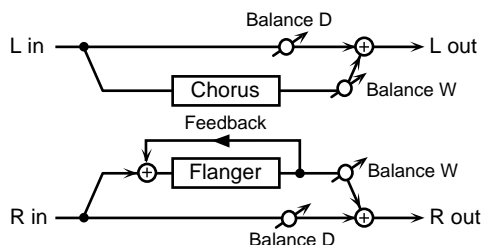
41:STEREO PHASER

This is a stereo phaser. With the Step effects, you can also make stepped changes in the pitch of sounds to which the Phaser effect is applied.
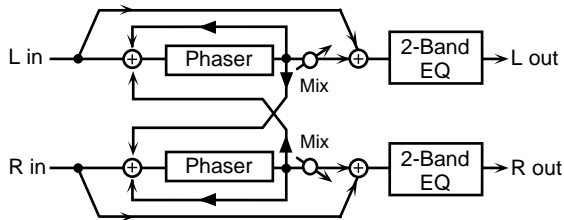
Phaser

Type (Phaser Type)

Selects the type of Phaser.

Type 2 adds more of the Phaser effect to the high frequencies than Type 1.

Mode

Selects the number of stages in the phaser (4/8-STAGE).

Polarity

Selects whether the left and right phase of the modulation will be the same or the opposite.

INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound.

SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.

Manual

Adjusts the center frequency to which the phase effect is applied.

Rate (Phaser Rate)

Adjust the frequency of modulation.

Depth (Phaser Depth)

Adjust the depth of modulation.

Resonance (Phaser Resonance)

Adjust the amount of feedback for the phaser. Higher settings will give the sound a stronger character.

X-Feedback (Cross Feedback Level)

Adjust the proportion (%) of the phaser sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

Mix Level

Adjust the volume of the phase-shifted sound, relative to the direct sound.

Step Rate

Switch

This setting determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).

Rate (Step Rate)

Adjust the frequency of pitch change.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

42:KEYSYNC FLANGER

Keysync FLanger controls the Flanger by resetting the effect at the volume of the sound input to the effects device, restarting from the same pitch each time the Flanger is reset.

This parameter lets your playing dynamics on the keyboard control the flanger effect.
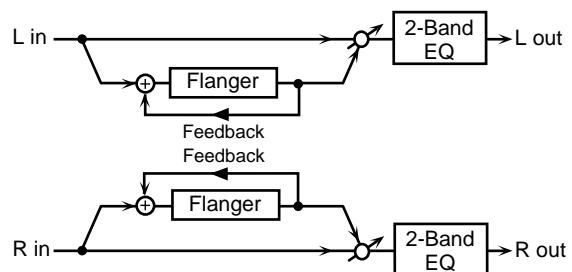
Flanger

PrDly (Pre Delay Time)

Adjust the time delay from the original sound until the flanger sound is heard.

Rate (LFO Rate)

Adjust the modulation frequency of the flanger sound.

Depth (LFO Depth)

Adjust the modulation depth of the flanger sound.

Fbk

Adjust the proportion (%) of the flanger sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase. Higher settings will produce a more distinctive sound.

Phase

Adjust the spaciousness of the flanger sound.

Filter

Type

OFF:A filter will not be used.

LPF:he frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Step Rate

Switch

This setting determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).

Rate (Step Rate)

Adjust the frequency of pitch change.

Keysync

Switch (Keysync Switch)

Determines whether the Flanger LFO is reset according to the input sound (ON) or not (OFF).

Thre (Keysync Threshold)

Adjust the volume level for which reset will be applied.

Thres (Keysync Thres)

Sets the LFO phase when the LFO is reset.

Phase (Keysync Phase)

Sets the LFO phase when the LFO is reset.

EQ Gain

Low (Low Gain)

Adjust the low frequency range gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance

Adjusts the volume balance between the direct sound and the flanger sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the flanger sound will be output.
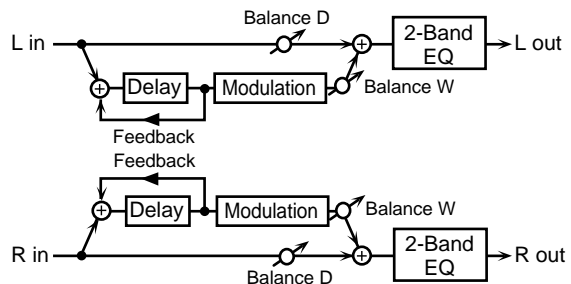
Output

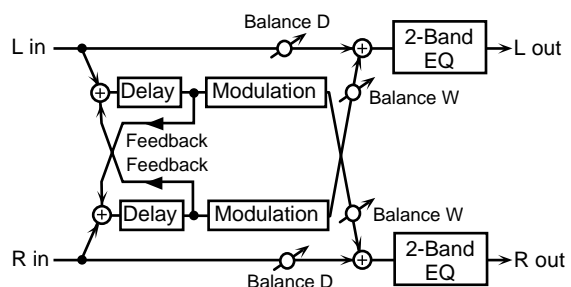### Level (Output Level) 0–127

Adjust the output level.

43:FORMANT FILTER

This adds a vowel character to the sound, making it similar to a human voice.
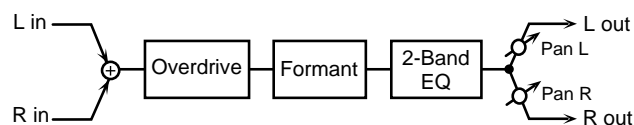
Overdrive

Switch

Determines whether the Overdrive is reset according to the input sound (ON) or not (OFF).

Drive

Turns Drive on/off.

Specifies the depth of distortion. The volume will change together with the degree of distortion.

Filter

Vowel 1, 2

Selects the vowel. The left setting is the vowel 1. The right

setting is the vowel 2.

Rate

Sets the frequency at which the two vowels will be switched.

Depth

Sets the effect depth.

Manual

Sets the point at which the two vowels will be switched. When set to 50, Vowels 1 and 2 switched in the same amount of time. Setting this higher than 50 increases the time for Vowel 1; setting this lower than 50 decreases the time for Vowel 1.

Keysync

Switch (Keysync Switch)

Determines whether the LFO for switching the vowels is reset according to the input sound (ON) or not (OFF).

Thres (Keysync Threshold)

Specifies the volume level for which reset will be applied.

EQ Gain

Low (Low Gain)

Specifies the low frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Specifies the high frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Specifies the output volume.

Pan (Output Pan)

Specifies the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

44:RING MODULATOR

Ring Modulator is an effect which applies amplitude modulation (AM) to the input signal, producing bell-like sounds.

You can also change the modulation frequency according to the volume of the sound input to the effects device.

```
L in ──[ Ring Mod ]──[ 2-Band EQ ]──→ L out

R in ──[ Ring Mod ]──[ 2-Band EQ ]──→ R out
```
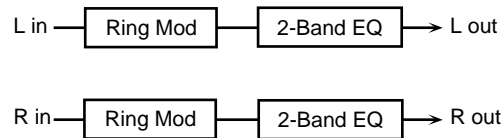
Ring Modulator

Freq (Frequency)

Sets the frequency at which modulation will be applied.

Modulator (Modulator Source)

Selects the input of the source sound for the envelope controlling the modulation.

When set to SOURCE, the frequency is modulated according to the envelope of the sound input to the multi-effects.

Modulator Monitor

Determines whether the input sound used as the modulator is output (ON) or not (OFF).

Sens

Sets the amount of frequency modulation applied.

Polarity

Determines whether the frequency modulation moves towards higher frequencies (UP) or lower frequencies (DOWN).

EQ Gain

Low (Low Gain)

Specifies the low frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Specifies the high frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W the effect sound will be output.

Output

### Level (Output Level)

Adjust the output level.

45:MULTI TAP DELAY

The Multi Tap Delay has four delays. Each of the Delay Time parameters can be specified as a note length of the selected tempo. You can also set the panning and level of each delay sound.

Delay

1 (Delay Time 1)

Adjust the delay time from the original sound until the delay 1 sound is heard.

2 (Delay Time 2)

Adjust the delay time from the original sound until the delay 2 sound is heard.

3 (Delay Time 3)

Adjust the delay time from the original sound until the delay 3 sound is heard.

4 (Delay Time 4)

Adjust the delay time from the original sound until the delay 4 sound is heard.

Feedback

Adjust the proportion (%) of the delay sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

Adjust the frequency at which the high frequency range of the delayed sound returned to the input will be cut.

If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Level

1 (Level 1)

Adjust the output level of delay 1.

2 (Level 2)

Adjust the output level of delay 2.

3 (Level 3)

Adjust the output level of delay 3.

4 (Level 4)

Adjust the output level of delay 4.

Pan

1 (Output Pan 1)

Sets the stereo position of the delay sound (Delay 1). A setting of L64 is far left, 0 is center, and 63R is far right.

2 (Output Pan 2)

Sets the stereo position of the delay sound (Delay 2). A setting of L64 is far left, 0 is center, and 63R is far right.

3 (Output Pan 3)

Sets the stereo position of the delay sound (Delay 3). A setting of L64 is far left, 0 is center, and 63R is far right.

4 (Output Pan 4)

Sets the stereo position of the delay sound (Delay 4). A setting of L64 is far left, 0 is center, and 63R is far right.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut). Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.
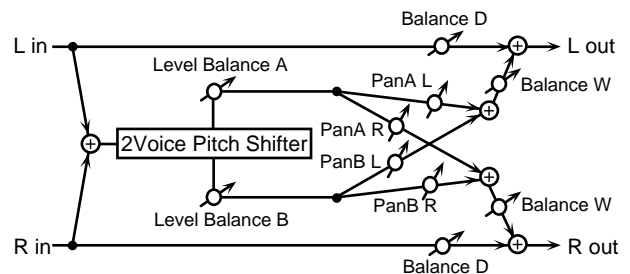
Output

Level (Output Level)

Adjust the output level.

46:REVERSE DELAY

Reverse Delay is a delay effect that adds the reverse of the input sound as the delay sound.
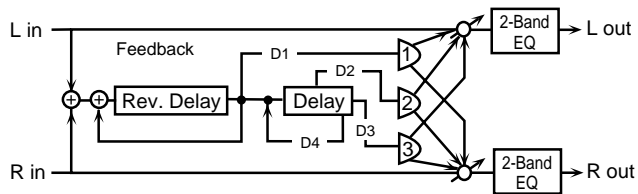
Delay

1 (Delay Time 1)

Adjust the delay time from the original sound until the delay 1 sound is heard.

2 (Delay Time 2)

Adjust the delay time from the original sound until the delay 2 sound is heard.

3 (Delay Time 3)

Adjust the delay time from the original sound until the delay 3 sound is heard.

4 (Delay Time 4)

Adjust the delay time from the original sound until the delay 4 sound is heard.

Feedback

Feedback 1:4

Adjust the proportion (%) of the delay 1 and 4 sound that is fed back into the effect. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

HF Damp 1:4

Adjust the frequency above which delayed sound (Delay 1, 4) fed back to the delay input will be cut.

If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Level 1:2:3

Adjust the output level of delay 1, 2 and 3.

Pan 1:2:3 (Output Pan 1:2:3)

Adjust the pan of delay sound (Delay 1, 2, 3). A setting of L64 is far left, 0 is center, and 63R is far right.

Threshold

Thresh (Threshold Level)

Specify the volume level at which the reverse delay will begin to apply.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjust the output level.

47:SHUFFLE DELAY

Shuffle Delay adds a shuffle to the delay sound, giving the sound a bouncy delay effect with a swing feel.
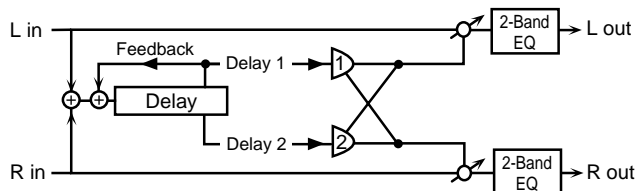
Delay

Time (Delay Time)

Adjust the delay time from the original sound until the delay sound is heard.

Shuffle Rate

Sets the ratio (as a percentage) of the time that elapses before the sound plays in Delay B relative to the time that elapses before the sound plays in Delay A. When set to 100%, the delay times are the same.

Acceleration

Adjust the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change.

Feedback

Adjust the proportion (%) of the delay sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

Adjust the frequency above which delayed sound fed back to the delay input will be cut.

If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Pan

A (Pan A)

Adjust the pan of the delay A sound.

B (Pan B)

Adjust the pan of the delay B sound.

Balance

Balance (Level Balance)

Sets the balance for the levels of the delay A and the delay B.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjust the output level.

48:3D DELAY

This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.
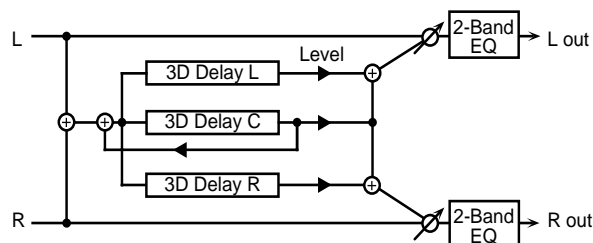
Delay

Center (Delay Time Center)

Adjust the delay time from the original sound until the center delay sound is heard.

Left (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right (Delay Time Right)

Adjust the delay time from the original sound until the right delay sound is heard.

HF Damp

Adjust the frequency above which delayed sound fed back to the delay input will be cut.

If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Feedback

Adjust the proportion (%) of the delay sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

Delay Level

Center (Level Center)

Adjust the volume of the left delay sound.

Left (Level Left)

Adjust the volume of the center delay sound.

Right (Level Right)

Adjust the volume of the right delay sound.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).
Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).
Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Out (Output Mode)

Adjust the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.

Level (Output Level)

Adjust the output level.

49:3VOICE PITCH SHIFTER

A Pitch Shifter shifts the pitch of the original sound. This 3-voice pitch shifter has three pitch shifters, and can add three pitch shifted sounds to the original sound.
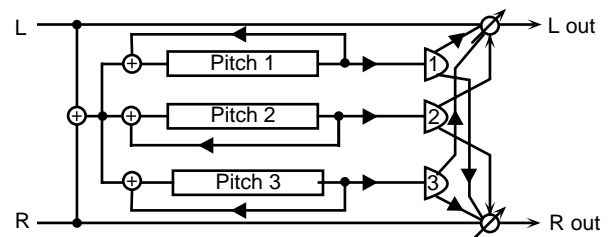
Pch Coarse

1:2:3 (Coarse Pitch 1:2:3) #1

Specify the pitch in semitones for pitch shift 1–3.

Pch Fine

1:2:3 (Fine Pitch 1:2:3) #1

Make fine adjustments to the pitch of the pitch shift 1–3 in 2-cent steps.

Pitch Shift

Mode (Pitch Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Fbk 1:2:3 (Feedback Level 1:2:3)

Adjust the proportion (%) of the pitch shift 1–3 sound that is fed back into the effect.

Pre Delay 1:2:3 (Pre Delay Time 1:2:3)

Specify the time delay from the original sound until the pitch shift 1–3 sound is heard.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W the effect sound will be output.

Level (Output Level)

Specifies the output volume.

Pan 1:2:3 (Output Pan 1:2:3)

Specify the stereo location of the pitch shift 1–3 sound. L64 is far left, 0 is center, and 63R is far right.

Output

Level (Output Level)

Adjust the output level.

50:LOFI COMPRESS

This is an effect that intentionally degrades the sound quality.
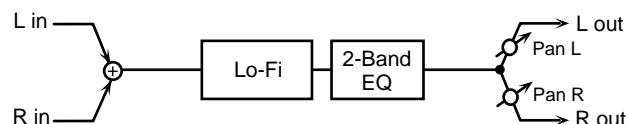
Lo-Fi

Type (LoFi Type)

Lowers the audio quality. The audio quality will worsen as this setting is increased.

Pre Filter

Type (Pre Filter Type)

Adjust the type of filter that will be applied before the sound passes through the Lo-Fi effect.

Post Filter 1

Type (Post Filter 1 Type)

Adjust the type of filter that will be applied after the sound passes through the Lo-Fi effect.

Post Filter 2

Type (Post Filter 2 Type)

OFF: A post filter 2 will not be used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. A setting of L64 is far left, 0 is center, and 63R is far right.

51:LOFI NOISE

In addition to a Lo-Fi effect, this effect also generates various types of noise, such as radio noise and disc noise.
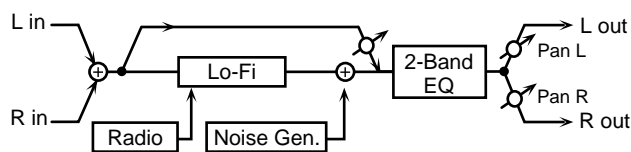
Lo-Fi

Type (LoFi Type)

Lowers the audio quality. The audio quality will worsen as this setting is increased.

Post Filter

Type (Post Filter Type)

OFF: A filter will not be used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Adjust the frequency at which the filter will begin cutting.

Radio Noise

Detune

Simulates the tuning noise of a radio. As this value is raised, the tuning will drift further.

Level

Adjust the volume of the radio noise.

Disc Noise

Type (Disc Noise Type)

Selects the type of record noise. The frequency at which the noise is heard will depend on the selected type.

LPF

Adjust the cutoff frequency of the low pass filter that is applied to the record noise.

Level (Disc Noise Level)

Adjust the volume of the record noise.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).
Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).
Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.
With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo position of the delay sound. A setting of L64 is far left, 0 is center, and 63R is far right.

52:SPEAKER SIMULATOR

Speaker Simulator is an effect that simulates the speaker type and mic settings used to record the speaker sound.

L in ⟶ [Speaker] ⟶ L out

R in ⟶ [Speaker] ⟶ R out
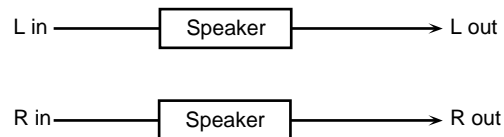
Speaker

Type (Speaker Type)

Select the type of speaker. The specifications of each type are as follows. The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	small open-back enclosure	10	dynamic mic
SMALL 2	small open-back enclosure	10	dynamic mic
MIDDLE	open back enclosure	12 x 1	dynamic mic
JC-120	open back enclosure	12 x 2	dynamic mic
BUILT IN 1	open back enclosure	12 x 2	dynamic mic
BUILT IN 2	open back enclosure	12 x 2	condenser mic
BUILT IN 3	open back enclosure	12 x 2	condenser mic
BUILT IN 4	open back enclosure	12 x 2	condenser mic
BUILT IN 5	open back enclosure	12 x 2	condenser mic
BG STACK 1	sealed enclosure	12 x 4	condenser mic
BG STACK 2	large sealed enclosure	12 x 4	condenser mic
MS STACK 1	large sealed enclosure	12 x 4	condenser mic
MS STACK 2	large sealed enclosure	12 x 4	condenser mic
METAL STACK	large double stack	12 x 4	condenser mic
2-STACK	large sealed enclosure	12 x 4	condenser mic
3-STACK	large sealed enclosure	12 x 4	condenser mic

Mic

Setting (Mic Setting)

Adjust the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.

Level

Adjust the volume of the microphone.

Direct Level

Adjust the volume of the direct sound.

Output

Level (Output Level)

Adjust the output level.

53:OVERDRIVE 2

This is an overdrive that provides heavy distortion.

Overdrive

Drive

Adjust the amount of distortion. The volume will change together with the degree of distortion.

Tone

Adjust the sound quality of the Overdrive effect.

Amp Simulator

Switch

Turns the Amp Simulator on/off.

Type (Amp Simulator Type)

Ajust the type of guitar amp.

SMALL : small amp
BUILT-IN : single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. A setting of L64 is far left, 0 is center, and 63R is far right.

54:DISTORTION 2

This is a distortion effect that provides heavy distortion.

Distortion

Drive

Adjust the amount of distortion. The volume will change together with the degree of distortion.

Tone

Adjust the sound quality of the Overdrive effect.

Amp Simulator

Switch

Turns the Amp Simulator on/off.

Type (Amp Simulator Type)

Ajust the type of guitar amp.

SMALL : small amp
BUILT-IN : single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

Pan (Output Pan)

Adjust the stereo location of the output sound. A setting of L64 is far left, 0 is center, and 63R is far right.

55:STEREO COMPRESSOR
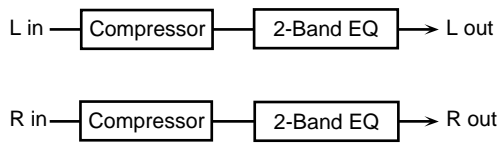
L in — Compressor — 2-Band EQ → L out

R in — Compressor — 2-Band EQ → R out

Compressor

Attack

Adjust the attack time of an input sound.

Sustain

Adjust the time over which low level sounds are boosted until they reach the specified volume.

Post Gain

Adjust the output gain.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

56:STEREO LIMITER
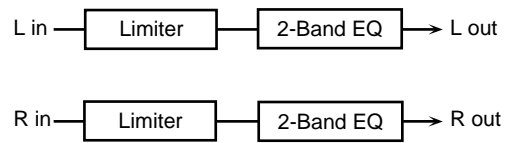
L in — Limiter — 2-Band EQ → L out

R in — Limiter — 2-Band EQ → R out

Limiter

Threshold (Threshold Level)

Adjust the volume at which compression will begin.

Ratio (Compression Ratio)

Adjust the compression ratio.

Release (Release Time)

Adjust the time from when the volume falls below the Threshold Level until compression is no longer applied.

Post Gain

Adjust the output gain.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain.

High (High Gain)

Adjust the high frequency gain.

Output

Level (Output Level)

Adjust the output level.

57:GATE

The Gate effect cuts the reverb's delay according to the volume of the sound input to the effects device. Use this in situations such as when you want to force a decrease in the decay sound.

L in ——————[Gate]—————→ L out

R in ——————[Gate]—————→ R out
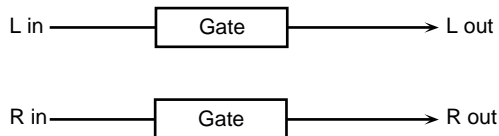
Gate

Mode

GATE (Gate Reverb):

When the source volume falls below a certain level, the gate closes, giving the effect of the reverb sound being cut with a gate reverb.

DUCK (Ducking Reverb):

When the source volume gets high enough, the gate closes, which gives a ducking reverb-type effect. Stop the reverb sound only when input loud sound so that prevent the play sound become unclear.

Attack Time

Sets the time it takes the gate fully opens after being triggered.

Hold Time

Sets the time it takes the gate starts closing after the instant the source sound goes under the threshold level.

Release Time

Sets the time it takes the gate fully closes after passes by the hold time.

Gate Key

Key

Selects the input of the sound that acts as the trigger closing the gate.

When set to SOURCE, the gate is closed by the sound input to the Multi-effects.

Threshold (Key Threshold)

Sets the volume level at which the gate begins to close.

Moniter (Key Monitor)

Determines whether the sound used as the gate trigger is output (ON) or not (OFF).

Balance

Balance (Effect Balance)

Sets the volume balance between the source sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjust the output level.

58:SLICER

By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.

L in ——————[Slicer]—————→ L out

R in ——————[Slicer]—————→ R out

Level 1–4

Beat 1–4

For a single measure containing four quarter notes, this sets the level of each sixteenth-note when the measure is divided into sixteenth notes. When set to 0, no sound is output.

Rate

Rate

Determines the cycle for one measure.

Attack

Attack

Sets the speed at which the volume changes between beats. The higher the value, the faster the volume changes.

Reset

Trigger

Selects the input of the sound that acts as the trigger resetting the one-measure pattern.

When set to OFF, the pattern is not reset, even if the input is present. When set to Source, the pattern is reset by the sound input to the multi-effects. When RESET is selected as the MFX Control parameter, you can then use an external MIDI device to reset the pattern.

Threshold (Reset Threshold)

Sets the volume level at which the reset begins.

Monitor (Reset Monitor)

Determines whether the sound used as the reset trigger is output (ON) or not (OFF). This parameter is disabled when Reset is set to OFF or Source.

Beat Change

Mode

Sets the manner in which the volume changes as one beat progresses to the next.

LEGATO: The change in volume from one beat's level to the next remains unaltered. If the level of a following beat is the same as the one preceding it, then there is no change in volume.

SLASH: The level is momentarily set to 0 before progressing to the level for the next beat. This change in volume occurs even if the level of a following beat is the same as the one preceding it.

Shuffle

Sets the timing of volume changes in levels for even-numbered Beats (Beat 1-2/Beat 1-4/Beat 2-2/...). The higher the value selected, the later the timing with which the beat progresses.

Output

Level (Output Level)

Adjust the output level.

59:ISOLATOR

An equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.
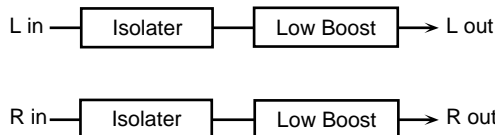
Boost/Cut

Low (Level Low) #

Mid (Level Middle) #

High (Level High) #

These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.

Anti Phase Low

Switch (Anti Phase Low Switch)

This turns the Anti-Phase function on and off and sets the level settings for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.

Level (Anti Phase Low Level)

Adjusting these levels for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)

Anti Phase Mid

Switch (Anti Phase Middle Switch)

This turns the Anti-Phase function on and off and sets the level settings for the Middle frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.

Level (Anti Phase Middle Level)

Adjusting these levels for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)

Low Boost

Switch (Low Booster Switch)

Adjust whether Low Booster will be used (ON) or not (OFF). This emphasizes the bottom to create a heavy bass sound.

Increasing this value gives you a heavier low end. (Depending on the Isolator and filter settings this effect may be hard to distinguish.)

Level (Low Booster Level)

Adjust the level.

Output

Level (Output Level)

Adjust the output level.

60:3D CHORUS

This applies a 3D effect to the chorus sound. The chorus sound will be positioned 90 degrees left and 90 degrees right.
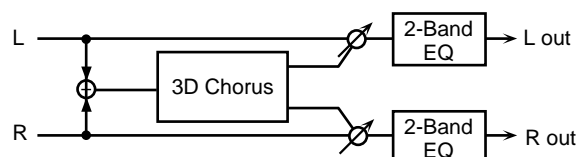
Chorus

Rate (LFO Rate)

Adjust the modulation frequency of the chorus sound.

Depth (LFO Depth)

Adjust the modulation depth of the chorus sound.

Phase

Adjust the spaciousness of the chorus sound.

Pre Delay (Pre Delay Time)

Adjust the delay time from the original sound until when the chorus sound is heard.

Filter

Type

OFF:A filter will not be used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance

Adjust the volume balance between the original sound and the flanger sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the flanger sound will be output.

Output

Out (Output Mode)

Adjust the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.

Level (Output Level)

Adjust the output level.

61:3D FLANGER

This applies a 3D effect to the flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.
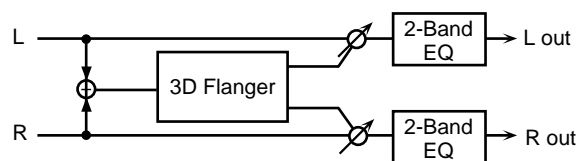
Flanger

Rate (LFO Rate)

Adjust the modulation speed of the flanger sound.

Depth (LFO Depth)

Adjust the modulation depth of the flanger sound.

Feedback

Adjust the proportion (%) of the flanger sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase. Higher settings will produce a more distinctive sound.

Phase

Adjust the spaciousness of the flanger sound.

PrDly (Pre Delay Time)

Adjust the time delay from the direct sound until the flanger sound is heard.

Filter

Type

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Step Rate

Switch (Step Rate Switct)

Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).

Step Rate (Step Rate)

And adjust the rate at which the pitch will change.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Balance

Balance

Adjust the volume balance between the original sound and the flanger sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the flanger sound will be output.

Output

Output (Output Mode)

Adjust the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.

Level (Output Level)

Adjust the output level.

62:TREMOLO

Tremolo cyclically modulates the volume to add tremolo effect to the sound.
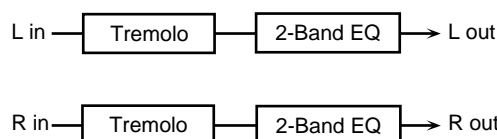
Tremolo

Mod Wave (Modulation Wave)

TRI: The sound will be modulated like a triangle wave.

SQR: The sound will be modulated like a square wave.

SIN: The sound will be modulated like a sine wave.

SAW1/2: The sound will be modulated like a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.

Rate

Adjust the frequency (speed) of the change.

Depth

Sets the depth to which the effect is applied.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

63:AUTO PAN

The Auto Pan effect cyclically modulates the stereo location of the sound.

Auto Pan

Mod Wave (Modulation Wave)

TRI: The sound will be modulated like a triangle wave.

SQR: The sound will be modulated like a square wave.

SIN: The sound will be modulated like a sine wave.

SAW1/2: The sound will be modulated like a sawtooth wave.

The teeth in SAW1 and SAW2 point at opposite directions.

Saw1   Saw2

Rate

Adjust the frequency (speed) of the change.

Depth

Sets the depth to which the effect is applied.

EQ Gain

Low (Low Gain)

Adjust the low frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the low frequency range.

High (High Gain)

Adjust the high frequency gain (amount of boost or cut).

Positive (+) settings will emphasize (boost) the high frequency range.

Output

Level (Output Level)

Adjust the output level.

64: STEREO PHASER 2

This is a stereo phaser.
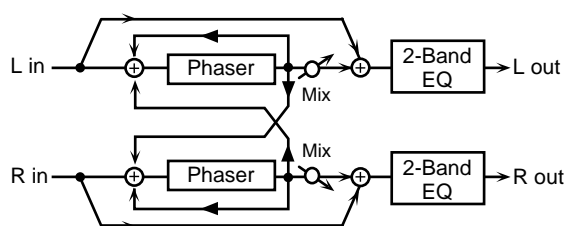
Phaser

Type (Phaser Type)

Selects the type of Phaser.

Type 2 adds more of the Phaser effect to the high frequencies than Type 1.

Mode

Selects the number of stages in the phaser (4/8/12/16).

Polarity

Selects whether the left and right phase of the modulation will be the same or the opposite.

INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound.

SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.

Manual

Adjusts the center frequency to which the phase effect is applied.

Rate (Phaser Rate)

Specifies the frequency of modulation.

Depth (Phaser Depth)

Adjusts the depth of modulation.

Resonance (Phaser Resonance)

Adjusts the amount of feedback for the phaser. Higher settings will give the sound a stronger character.

X-Feedback (Cross Feedback Level)

Adjusts the proportion (%) of the phaser sound that is to be returned to the input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

Mix Level (Mix Level)

Specifies the volume of the phase-shifted sound, relative to the direct sound.

Step Rate

Switch (Step Switch)

Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).

Rate (Step Rate)

Adjusts the rate (period) of pitch change.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

65: STEREO AUTO WAH

This is a stereo auto wah.
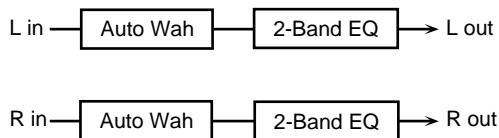
Auto Wah

Filter Type

Selects the type of filter.

LPF: The wah effect will be applied over a wide frequency range.

BPF: The wah effect will be applied over a narrow frequency range.

Sens

Adjusts the sensitivity with which the filter is controlled.

Manual

Adjusts the center frequency from which the wah effect is applied.

Peak

Adjusts the amount of the wah effect that will occur in the area of the center frequency.

Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range.

Rate (LFO Rate)

Adjusts the frequency of the modulation.

Depth (LFO Depth)

Adjusts the depth of the modulation.

Polarity (Auto Wah Polarity)

Sets the direction in which the frequency will change when the auto-wah filter is modulated. With a setting of Up, the filter will change toward a higher frequency. With a setting of Down, it will change toward a lower frequency.

Phase

Sets the degree of phase shift of the left and right sounds when the wah effect is applied.

EQ Gain

Low

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

66: ST FORMANT FILTER (Stereo Formant Filter)

This is a stereo formant filter.
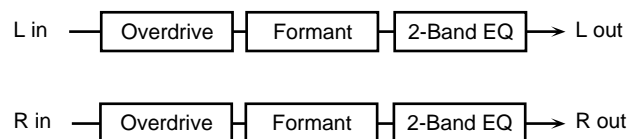
Overdrive

Switch (Drive Switch)

Turns Drive on/off.

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Filter

Vowel1

Selects vowel 1.

Vowel2

Selects vowel 2.

Rate

Sets the frequency at which the two vowels will be switched.

Depth

Sets the effect depth.

Manual

Sets the point at which the two vowels will be switched. When set to 50, Vowels 1 and 2 are switched after the same

amount of time. Setting this higher than 50 increases the time for Vowel 1; setting this lower than 50 decreases the time for Vowel 1.

Phase

Sets the phase shift of the left and right sounds when the two vowels are switched.

Keysync

Switch (Keysync Switch)

Determines whether the LFO for switching the vowels is reset according to the input sound (ON) or not (OFF).

Thres

Adjusts the volume level at which reset will be applied.

EQ Gain

Low

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

67: MULTI TAP DELAY 2

This allows you to set even longer delay times (max. 3000 ms) for the Multi-Tap Delay function.
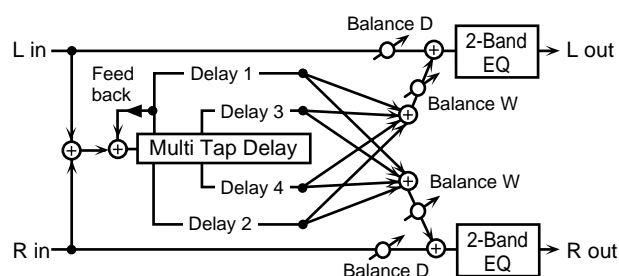
Delay

1–4 (Delay Time 1–4)

Adjusts the delay time from the direct sound until the delay 1 – 4sound is heard.

Feedback

Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

Adjusts the frequency above which delayed sound fed back to the delay input will be cut.

If you do not want to damp the high frequencies, set this parameter to BYPASS.

Level

1–4 (Delay Level 1–4)

Adjusts the output level of delay 1 – 4.

Pan

1–4 (Output Pan 1–4)

Sets the stereo position of the delay sound (Delay 1 – 4). L64 is far left, 0 is center, and 63R is far right.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.
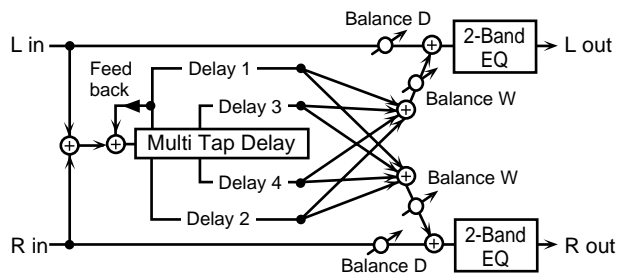
Output

Level (Output Level)

Adjusts the output level.

68: REVERSE DELAY 2

This allows you to set even longer delay times (max. 1500 ms) for the Multi-Tap Delay function.
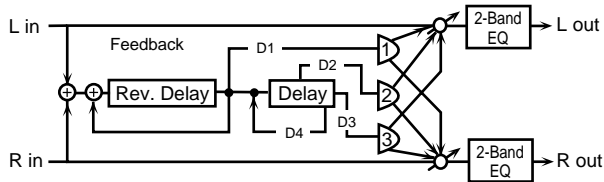
Delay

1–4 (Delay Time 1–4)

Adjusts the delay time from the direct sound until the delay 1 – 4 sound is heard.

Feedback

1, 4 (Feedback 1, 4)

Adjusts the proportion (%) of the delay 1 sound that is fed back into the effect. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

1, 4 (HF Damp 1, 4)

Adjusts the frequency above which delayed sound (delay 1, 4) fed back to the delay input will be cut.

If you do not want to damp the high frequencies, set this parameter to BYPASS.

Level

1–3 (Delay Level 1–3)

Sets the volume level of the delay sound (Delay 1 – 3).

Pan

1–3 (Output Pan 1–3)

Sets the stereo position of the delay sound (Delay 1). L64 is far left, 0 is center, and 63R is far right.

Threshold

Value

Specifies the volume level at which the reverse delay will begin to apply.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W the effect sound will be output.

Output

Level (Output Level)

Adjusts the output level.

69: SHUFFLE DELAY 2

This allows you to set even longer delay times (max. 3000 ms) for the Shuffle Delay function.
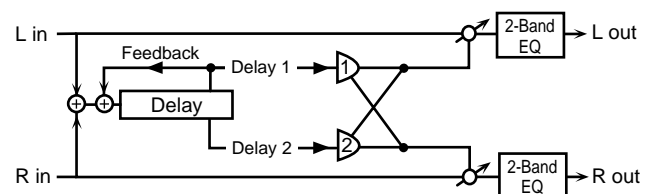
Delay

Time (Delay Time)

Adjusts the delay time from the direct sound until the delay sound is heard.

Shuffle Rate

Sets the ratio (as a percentage) of the time that elapses before the sound plays in Delay B relative to the time that elapses before the sound plays in Delay A. When set to 100%, the delay times are the same.

Acceleration

Adjusts the time over which the Delay Time will change from the current setting to a newly specified setting.

Feedback

Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

HF Damp

Adjusts the frequency above which delayed sound fed back to the delay input will be cut.

If you do not want to damp the high frequencies, set this parameter to BYPASS.

Pan

A, B (Pan A, B)

Adjusts the pan of the delay A, B sound.
Balance

Balance (Level Balance)

Sets the balance for the levels of the delay A and the delay B.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.

Output

Level (Output Level)

Adjusts the output level.

70: 3D DELAY 2

This allows you to set even longer delay times (max. 3000 ms) for the 3D Delay function.
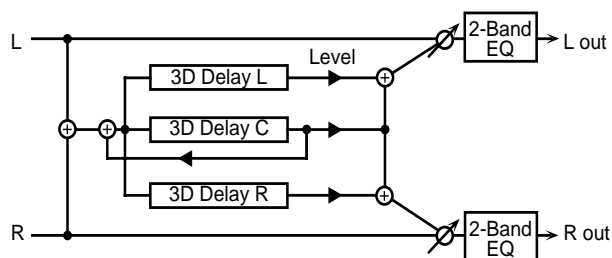
Delay

Center (Delay Time Center)

Adjusts the delay time from the direct sound until the center delay sound is heard.

Left (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right (Delay Time Right)

Adjust the delay time from the direct sound until the right delay sound is heard.

HF Damp

Adjusts the frequency above which delayed sound fed back to the delay input will be cut.

If you do not want to damp the high frequencies, set this parameter to BYPASS.

Feedback

Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Positive (+) settings will return the signal to the input with the original phase, while negative (-) settings produce an inverted phase.

Delay Level

Center (Delay Level Center)

Adjusts the volume of the center delay sound.

Left (Delay Level Left)

Adjusts the volume of the left delay sound.

Right (Delay Level Right)

Adjusts the volume of the right delay sound.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance (Effect Balance)

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W the effect sound will be output.

## Output

Out (Output Mode)

Specifies the method that will be used to reproduce the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.

Level (Output Level)

Adjusts the output level.

71: ROTARY 2

This type provides modified response for the rotary speaker, with the low end boosted further.

This effect features the same specifications as the VK-7's built-in rotary speaker.
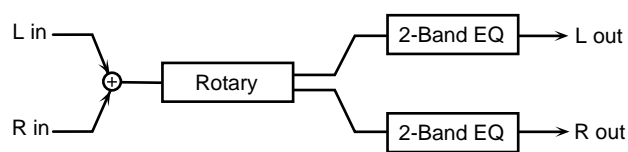
Rotary

Speed

Switches the rotational speed of the rotating speaker.

SLOW: The woofer rotates at the speed determined by the Woofer Speed Slow setting, and the tweeter rotates at the speed determined by the Tweeter Speed Slow setting.

FAST: The woofer rotates at the speed determined by the Woofer Speed Fast setting, and the tweeter rotates at the speed determined by the Tweeter Speed Fast setting.

Brake

Switches the rotation of the rotary speaker.

When this is turned off, the rotation will gradually stop. When it is turned on, the rotation will gradually resume.

Spread

Value

Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.

Woofer

Slow (Woofer Slow Rate)

Specifies the low-speed rotation speed of the woofer.

Fast (Woofer Fast Rate)

Specifies the high-speed rotation speed of the woofer.

Level (Woofer Level)

Sets the volume of the woofer.

Trans Up (Woofer Transition Up)

Sets the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast. The higher the value, the faster the transition occurs.

Trans Down (Woofer Transition Down)

Sets the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow. The higher the value, the faster the transition occurs.

Tweeter

Slow (Tweeter Slow Rate)

Specifies the low-speed rotation speed of the tweeter.

Fast (Tweeter Fast Rate)

Specifies the high-speed rotation speed of the tweeter.

Tweeter (Tweeter Level)

Specifies the volume of the tweeter.

Trans Up (Tweeter Transition Up)

Sets the rate at which the tweeter rotation speeds up when the rotation is switched from Slow to Fast. The higher the value, the faster the transition occurs.

Trans Down (Tweeter Transition Down)

Sets the rate at which the tweeter rotation speeds up when the rotation is switched from Fast to Slow. The higher the value, the faster the transition occurs.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

72: ROTARY MULTI

This connects Overdrive/Distortion (ODDS), 3-band equalizer (EQ), and Rotary (RT) effects in series.
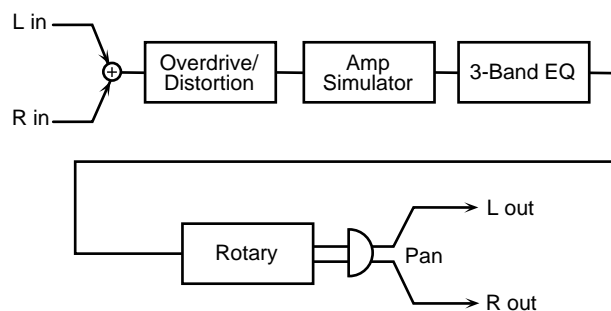
Sequence

OD/Dist (Overdrive/Distortion Switch)

Turns the Overdrive or Distortion on/off.

Amp Sim (Amp Simulator Switch)

Turns the Amp Simulator on/off.

3 Band EQ (3 Band EQ Switch)

Turns the 3 Band EQ on/off.

Rotary (Rotary Switch)

Turns the Rotary on/off.

Overdrive/Distortion

Type

Selects whether to use Overdrive or Distortion.

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Tone

Adjusts the sound quality of the Overdrive/Distortion effect.

Level

Adjusts the Overdrive/Distortion output level.

Amp Simulator

Type (Amp Type)

Selects the type of guitar amp.

EQ Gain

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

Mid (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid

Mid Freq (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting in which the gain will be affected. Higher values of Q will result in a narrower area being affected.

Rotary

Speed

Simultaneously switch the rotational speed of both the low-range and the high-range rotors.

Slow: Slow down the rotation to the specified speeds (RT L Slow parameter/RT H Slow parameter values).

Fast: Speed up the rotation to the specified speeds (RT L Fast parameter/RT H Fast parameter values).

Separation

Adjusts the spatial spread of the rotary sound.

Woofer

Slow (Low Frequency Slow Rate)

Adjusts the speed of the low-range rotor for the slow-speed setting.

Fast (Low Frequency Fast Rate)

Adjusts the speed of the low-range rotor for the fast-speed setting.

Accel (Low Frequency Acceleration)

Adjusts the time over which the rotation speed of the low-range rotor will change from slow-speed to fast-speed (or fast-speed to slow-speed) rotation. Lower values will require longer times.

Level (Low Frequency Level)

Adjusts the volume of the low-range rotor.

Tweeter

Slow (High Frequency Slow Rate)

Adjusts the speed of the high-range rotor for the slow-speed setting.

Fast (High Frequency Fast Rate)

Adjusts the speed of the high-range rotor for the fast-speed setting.

Accel (High Frequency Acceleration)

Adjusts the time over which the rotation speed of the high-range rotor will change from slow-speed to fast-speed (or fast-speed to slow-speed) rotation. Lower values will require longer times.

Level (RT High Frequency Level)

Adjusts the volume of the high-range rotor.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

73: KEYBOARD MULTI

Keyboard Multi provides Ring Modulator (RM), Equalizer (EQ), Pitch Shifter (PS), Phaser (PH) and Delay (Dly) effects connected in series.

Ring Modulator is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds.
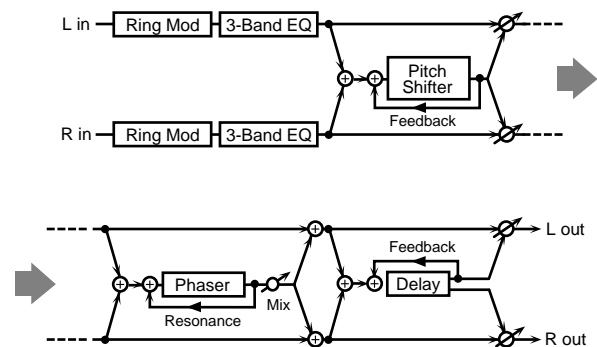
Sequence

Ring Mod (Ring Modurator Switch)

Turns the Ring Modulator on/off.

3 Band EQ Sw (3 Band EQ Switch)

Turns the equalizer on/off.

Pch Shift (Pitch Shifter Switch)

Turns the Pitch Shifter on/off.

Phaser (Phaser Switch)

Turns the Phaser on/off.

Delay (Delay Switch)

Turns the delay on/off.

> * After turning the VALUE dial to select the effect, you can press [F1] or [F2] to rearrange the order in which effects are connected.

Ring Modulator

Freq (RM Frequency)

Sets the frequency at which modulation will be applied.

Balance (RM Balance)

Adjusts the balance between the direct and the ring modulated sound.

EQ Gain

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

Mid (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting in which the gain will be affected. Higher values of Q will result in a narrower area being affected.

Pitch Shifter

Mode (PS Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Coarse Tune (PS Coarse Pitch) # *1

Adjusts the pitch of the pitch-shifted sound in semitone steps (-2– +1 octaves).

Fine Tune (PS Fine Pitch) # *1

Makes fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100– +100 cents).

Delay (PS PreDelay)

Adjusts the time delay from when the direct sound begins until the pitch-shifted sound is heard.

Feedback (PS Feedback)

Adjusts the proportion (%) of the processed sound that is fed back into the effect.

Balance (PS Balance)

Adjusts the volume balance between the direct sound and the pitch shifted sound.

Phaser

Mode (Phaser Mode)

Selects the number of stages in the phaser.

Manual (Phaser Manual)

Sets the center frequency at which the phaser sound will be modulated.

Rate (Phaser Rate)

Adjusts the frequency of modulation.

Depth (Phaser Depth)

Specifies the depth of modulation.

Resonance (Phaser Resonance)

Adjusts the emphasis for the region around the center frequency specified by the PH Man parameter.

Mix Level(Phaser Mix)

Adjusts the proportion by which the phase-shifted sound is combined with the direct sound.

Delay

Left Time (Delay Time Left)

Adjusts the delay time from the original sound until the left delay sound is heard.

Right Time (Delay Time Right)

Adjusts the delay time from the direct sound until the right delay sound is heard.

Feedback (Delay Feedback Level)

Adjusts the proportion (%) of the delay sound that is fed back into the delay input.

HF Damp

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Balance (Delay Balance)

Adjusts the volume balance between the direct sound and the delay sound.

Output

Level (Output Level)

Adjusts the output level.

* *1 In Realtime Control, the selected pitch is controlled with these parameters.*

74: RHODES MULTI

Rhodes Multi provides Enhancer (EH), Phaser (PH), Chorus or Flanger (CF), and Tremolo or Pan (TP) effects connected in series.
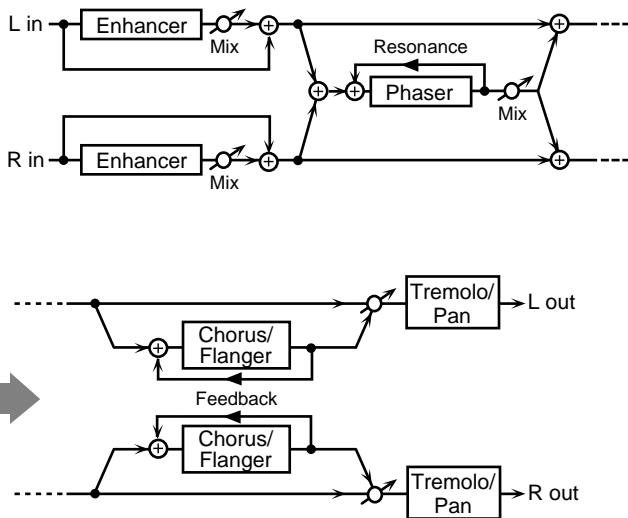
Sequence

Enhancer (Enhancer Switch)

Turns the Enhancer on/off.

Phaser (Phaser Switch)

Turns the Phaser on/off.

CF Sw (CF Switch)

Turns the chorus/flanger on/off.

TP Sw (TP Switch)

Turns tremolo or pan on/off.

Enhancer

Sens (Enhancer Sens)

Adjusts the sensitivity of the enhancer.

Mix Level (Enhancer Mix Level)

Adjusts the proportion by which the overtones generated by the enhancer are combined with the direct sound.

Phaser

Mode (Phaser Mode)

Selects the number of stages in the phaser.

Manual (Phaser Manual)

Sets the center frequency at which the phaser sound will be modulated.

Mix Level (Phaser Mix)

Adjusts the proportion by which the phase-shifted sound is combined with the direct sound.

Rate (Phaser Rate)

Specifies the frequency of modulation.

Depth (Phaser Depth)

Adjusts the depth of modulation.

Resonance (Phaser Resonance)

Adjusts the emphasis for the region around the center frequency specified by the PH Man parameter.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Specifies the rate of modulation.

Depth

Specifies the depth of modulation.

Feedback (Feedback Level)

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

PreDly (Pre Delay)

Adjusts the time from the direct sound until when the chorus or flanger sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Tremolo/Pan

Type

Selects either Tremolo or Pan.

ModWave (Modulation Wave)

Selects the way in which tremolo or pan will be modulated.

Tri: The sound will be modulated like a triangle wave.

Sqr: The sound will be modulated like a square wave.

Sin: The sound will be modulated like a sine wave.

Saw1,2:   The sound will be modulated like a sawtooth wave.

The teeth in SAW1 and SAW2 point at opposite directions.

Rate (Modulation Rate)

Specifies the rate of modulation.

Depth (Modulation Depth)

Specifies the depth of modulation.

Output

Level (Output Level)

Adjusts the output level.

75: JD MULTI

This allows the Distortion (DS), Phaser (PH), Spectrum (SP), and Enhancer (EH) effects to be connected in series in any desired order.
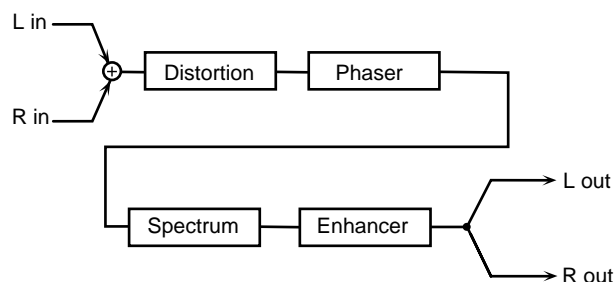
SEQUENCE

Dist (Distortion Switch)

Turns the Distortion on/off.

Phaser (Phaser Switch)

Turns the phaser on/off.

Spectrum (Spectrum Switch)

Turns the Spectrum on/off.

Enhancer Sw (Enhancer Switch)

Turns the Enhancer on/off.

> * *After turning the VALUE dial to select the effect, you can hold down [SHIFT] and press [F1] or [F2] to rearrange the order in which effects are connected.*

Distortion

Type (Distortion Type)

Specifies the type of the distortion.

MELLOW DRIVE: A soft, mellow distortion; somewhat dark sounding.

OVERDRIVE: The classic sound of an overdriven tube amp.

CRY DRIVE: Distortion with a high-frequency boost.

MELLOW DIST: Sounds like the distortion you'd get from a really big amp.

LIGHT DIST: A distortion with an intense, brilliant feel.

FAT DIST: Boosted lows and highs gives this one a thick, fat sound.

FUZZ DIST: Like FAT DIST, but with even more distortion.

Drive (Distortion Drive)

Adjusts the degree of distortion.

Level (Distortion Level)

Sets the distortion output level.

Phaser

Manual (Phaser Manual)

Specifies the center frequency at which the sound is modulated.

Mix Level

Specifies the volume of the phase-shifted sound, relative to the direct sound.

Rate (Phaser Rate)

Specifies the frequency of modulation.

Depth (Phaser Depth)

Adjusts the depth of modulation.

Resonance (Phaser Resonance)

Adjusts the amount of feedback for the phaser. Higher settings will give the sound a stronger character.

Spectrum

Band Width

Specifies the range of all bands in which the level will be

modified.

250Hz (250Hz Gain)

Specifies the gain (amount of boost or cut) at 250 Hz.

500Hz (500Hz Gain)

Specifies the gain (amount of boost or cut) at 500 Hz.

1000Hz (1000Hz Gain)

Specifies the gain (amount of boost or cut) at 1000 Hz.

2000Hz (2000Hz Gain)

Specifies the gain (amount of boost or cut) at 2000 Hz.

4000Hz (4000Hz Gain)

Specifies the gain (amount of boost or cut) at 4000 Hz.

8000Hz (8000Hz Gain)

Specifies the gain (amount of boost or cut) at 8000 Hz.

Enhancer

Sens (Enhancer Sens)

Adjusts the sensitivity of the enhancer.

Mix Level

Determines the proportion at which the overtones generated by the enhancer will be mixed with the original sound.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

76: STEREO LOFI COMPRESS

This is a stereo Lo-Fi compress. This is an effect that intentionally degrades the sound quality.
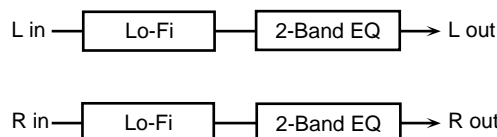
Lo-Fi

Type (LoFi Type)

Degrades the sound quality. The sound quality will become poorer as this value is increased.

Pre Filter

Type

Specifies the type of filter that will be applied before the sound passes through the Lo-Fi effect.

Post Filter 1

Type

Specifies the type of filter that will be applied after the sound passes through the Lo-Fi effect.

Post Filter 2

Type

OFF: A post filter 2 will not be used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the effect sound will be output.
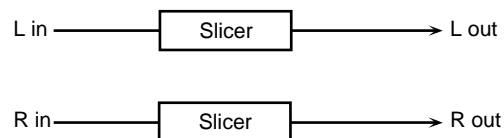
Output

Level (Output Level)

Adjusts the output level.

77: STEREO LO-FI NOISE

This is a stereo Lo-Fi noise. In addition to a Lo-Fi effect, this effect also generates various types of noise such as radio noise and disc noise.
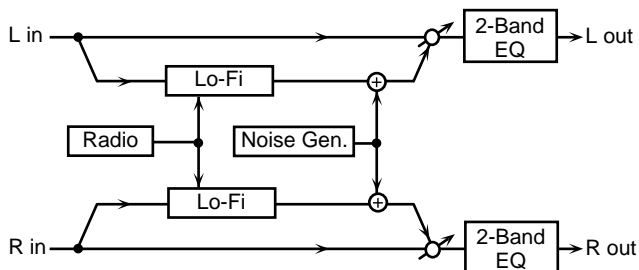
Lo-Fi

Type

Degrades the sound quality. The sound quality will become poorer as this value is increased.

Hum

Type (Hum Noise Type)

Selects the type of hum noise.

LPF (Hum Noise LPF)

Specifies the cutoff frequency of the low pass filter that is applied to the hum noise.

Level (Hum Noise Level)

Specifies the volume of the hum noise.

Post Filter

Type (Post Filter Type)

OFF: No filter is used.

LPF: Frequencies higher than the selected cutoff frequency value are eliminated.

HPF: Frequencies lower than the selected cutoff frequency value are eliminated.

Cutoff (Post Filter Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Disc Noise

Disc Noise Type

Selects the type of record noise. The frequency at which the noise is heard will depend on the selected type.

Disc Noise LPF

Specifies the cutoff frequency of the low pass filter that is applied to the record noise.

Disc Noise Level

Specifies the volume of the record noise.

Radio Noise

Detune (Radio Detune)

Simulates the tuning noise of a radio. As this value is raised, the tuning will drift further.

Level (Radio Noise Level)

Specifies the volume of the radio noise.

Noise

Noise Type

Selects either white noise or pink noise.

LPF (White/Pink Noise LPF)

Specifies the cutoff frequency of the low pass filter that is applied to the white noise or pink noise.

Level (White/Pink Noise Level)

Specifies the volume of the white noise or pink noise.

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Balance

Balance

Sets the volume balance between the direct sound and the effect sound.

With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W the effect sound will be output.

Output

Level (Output Level)

Adjusts the output level.

78: GUITAR AMP SIMULATOR

This is an effect that simulates an amp.
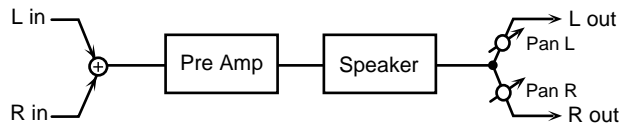
Amp Simulator

Switch (Pre Amp Switch)

Turns the amp switch on/off.

Type (Pre Amp Type)

Selects the type of guitar amp.

Amp Level

Volume (Pre Amp Volume)

Adjusts the volume and the amount of distortion of the amp.

Master (Pre Amp Master Volume)

Adjusts the volume of the entire pre-amp.

Gain (Pre Amp Gain)

Selects the degree of pre-amp distortion between three levels of Low, Middle and High.

Amp Tone

Presence (Pre Amp Presence)

Adjusts the tone for the ultra high frequency range.
Normally the range will be 0–127, but when "Match Drive" is selected for the Pre-amp Type parameter, the range will be -127–0.

Bright (Pre Amp Brightness)

Turning this "On" will produce a sharper and brighter sound. This parameter can be set if the Pre-amp Type is set to "JC-120," "Clean Twin," or "BG Lead."

Bass (Pre Amp Bass)

Sets the bass sound quality.

Middle (Pre Amp Middle)

Adjusts the tone of the mid range. If "MAtch Drive" is selected for the Pre-amp type parameter, this parameter cannot be set.

Treble (Pre Amp Treble)

Sets the treble sound quality.

Speaker

Switch (Speaker Switch)

Determines whether the signal passes through the speaker (ON), or not (OFF).

Speaker Type

Selects the type of speaker. The specifications of each type are as follows. The "Speaker" column lists the diameter of the speakers (in inches) along with the number of speakers there are.

Type	Cabinet	Speaker	Microphone
Small 1	Small open-back enclosure	10	dynamic
Small 2	Small open-back enclosure	10	dynamic
Middle	open back enclosure	12 x 1	dynamic
JC-120	open back enclosure	12 x 2	dynamic
Built In 1	open back enclosure	12 x 2	dynamic
Built In 2	open back enclosure	12 x 2	condenser
Built In 3	open back enclosure	12 x 2	condenser
Built In 4	open back enclosure	12 x 2	condenser
Built In 5	open back enclosure	12 x 2	condenser
BG Stack 1	sealed enclosure	12 x 2	condenser
BG Stack 2	large sealed enclosure	12 x 2	condenser
MS Stack 1	large sealed enclosure	12 x 4	condenser
MS Stack 2	large sealed enclosure	12 x 4	condenser
Metal Stack	large double stack	12 x 4	condenser
2 Stack	large double stack	12 x 4	condenser
3 Stack	large triple stack	12 x 4	condenser

Mic

Setting

Specifies the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.

Level (Mic Level)

Adjusts the volume of the microphone.

Direct (Direct Level)

Specifies the volume of the direct sound.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Specifies the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

79: STEREO OVERDRIVE

This is a stereo overdrive.

L in → [Overdrive] → [Amp Simulator] → [2-Band EQ] → L out

R in → [Overdrive] → [Amp Simulator] → [2-Band EQ] → R out
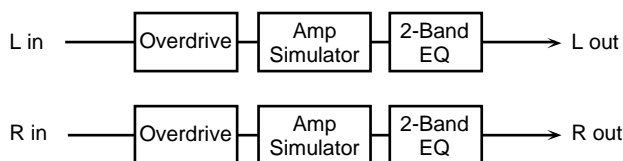
Overdrive

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Tone

Specifies the sound quality of the Overdrive effect.

Amp Simulator

Switch (Amp Simulator Switch)

Turns the Amp Simulator switch on/off.

Type (Amp Simulator Type)

Selects the type of guitar amp.

SMALL: small amp

BUILT-IN: single-unit type amp

2-STACK: large double stack amp

3-STACK: large triple stack amp

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

You can use the Output Level setting to even out the volume difference between the sound with and without Overdrive.

80: STEREO DISTORTION

This is a stereo distortion.
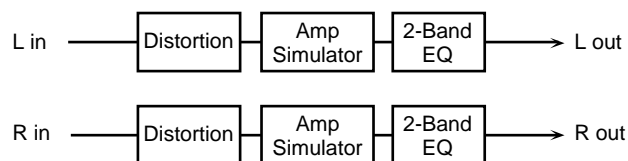
L in → [Distortion] → [Amp Simulator] → [2-Band EQ] → L out

R in → [Distortion] → [Amp Simulator] → [2-Band EQ] → R out

Distortion

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Tone

Adjusts the sound quality of the Distortion effect.

Amp Simulator

Switch (Amp Simulator Switch)

Turns the Amp Simulator switch on/off.

Type (Amp Simulator Type)

Selects the type of guitar amp.

SMALL: small amp

BUILT-IN: single-unit type amp

2-STACK: large double stack amp

3-STACK: large triple stack amp

EQ Gain

Low (Low Gain)

Adjusts the gain of the low frequency range.

Positive (+) settings will emphasize (boost) the low-frequency range.

High (High Gain)

Adjusts the gain of the high frequency range.

Positive (+) settings will emphasize (boost) the high-frequency range.

Output

Level (Output Level)

Adjusts the output level.

81: GUITAR MULTI A

Guitar Multi 1 connects Compressor (Cmp), Overdrive or
Distortion (ODDS), Amp Simulator (Amp), Delay (Dly), and
Chorus or Flanger (CF) effects in series.
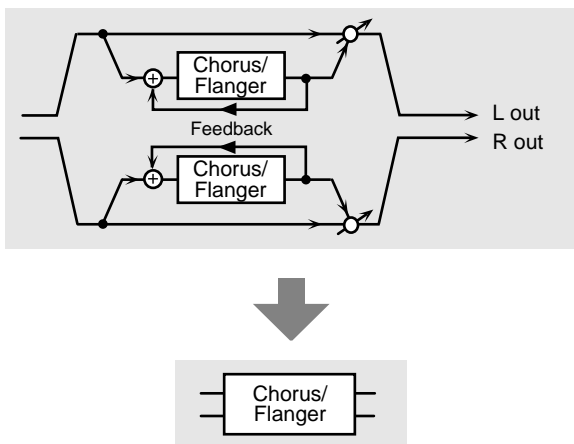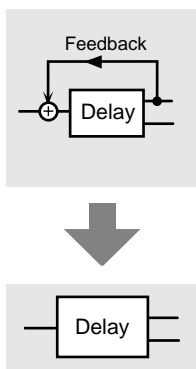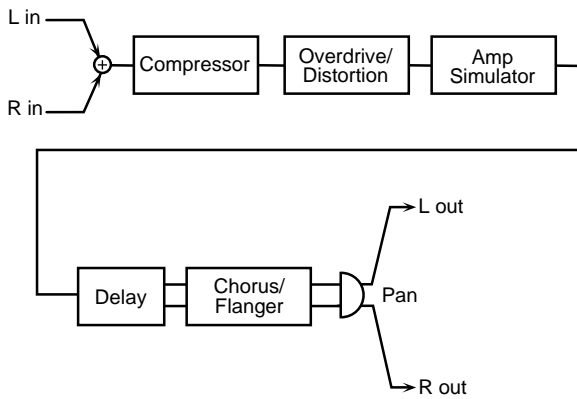
* *In this section, the Delay and Chorus/Flanger are depicted in
diagrams. When these same effects are discussed later, these
diagrams are used.*

Sequence

Comp (Compressor Switch)

Turns the Compressor on/off.

OD/Dist (Overdrive/Distortion Switch)

Turns the Overdrive/Distortion on/off.

Amp Sim (Amp simulator Switch)

Turns the Compressor on/off.

Delay (Delay Switch)

Turns the Delay on/off.

Cho/Flg (Chorus/Flanger Switch)

Turns the Chorus/Flanger on/off.

Compressor

Attack (Compressor Attack)

Specifies the duration of the attack when sound is input.

Sustain (Compressor Sustain)

Specifies the time over which low-level sounds will be
boosted to reach the specified volume. Increasing the value
will shorten the time. When the value is modified, the level
will also change.

Level (Compressor Level)

Sets the volume of the compressor sound.

Overdrive/Distortion

Type

Selects either Overdrive or Distortion.

Drive

Adjusts the degree of distortion. The volume will change
together with the degree of distortion.

Tone (Overdrive/Distortion Tone)

Adjusts the sound quality of the Overdrive/Distortion effect.

Level

Adjusts the Overdrive/Distortion output level.

Amp Simulator

Amp Type (Amp Simulator Type)

Selects the type of guitar amp.

Small: small amp

BltIn: built-in type amp

2-Stk: large double stack amp

3-Stk: large triple stack amp

Delay

Left Time (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right Time (Delay Time Right)

Adjust the delay time from the direct sound until the right delay sound is heard.

Feedback (Delay Feedback Level)

Adjusts the proportion (%) of the delay sound that is fed back into the delay input.

HF Damp

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Balance (Delay Balance)

Adjusts the volume balance between the direct sound and the delay sound.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Specifies the rate of modulation.

Depth

Specifies the depth of modulation.

Feedback (CF Feedback)

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Delay (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Filter

Type

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

82: GUITAR MULTI B

Guitar Multi 2 provides Compressor (Cmp), Overdrive or Distortion (ODDS), Amp Simulator (Amp), Equalizer (EQ), and Chorus or Flanger (CF) effects connected in series.
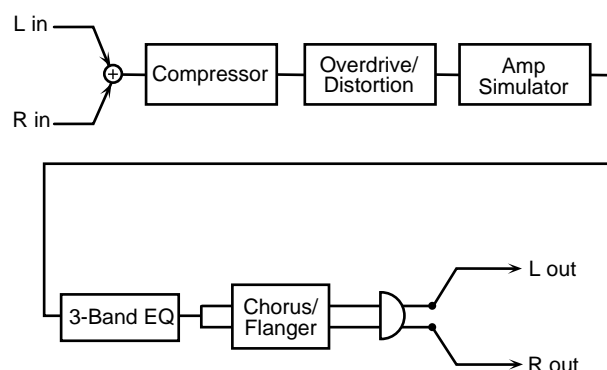
Sequence

Comp (Compressor Switch)

Turns the Compressor on/off.

OD/Dist (OD/Dist Switch)

Turns Overdrive or Distortion on/off.

Amp Sim (Amp Simulator Switch)

Turns the Amp Simulator on/off.

3 Band EQ (3 Band EQ Switch)

Turns the equalizer on/off.

Cho/Flg (Chorus/Flanger Switch)

Turns the chorus/flanger on/off.

Compressor

Attack (Compressor Attack)

Specifies the duration of the attack when sound is input.

Sustain (Compressor Sustain)

Specifies the time over which low-level sounds will be boosted to reach the specified volume. Increasing the value will shorten the time. When the value is modified, the level will also change.

Level (Compressor Level)

Sets the volume of the compressor sound.

Overdrive/Distortion

Type

Selects either Overdrive or Distortion.

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Tone (Overdrive/Distortion Tone)

Adjusts the sound quality of the Overdrive/Distortion effect.

Level

Sets the volume of the overdrive sound.

Amp Simulator

Type (Amp Simulator Type)

Selects the type of guitar amp.

Small:	small amp
BltIn:	built-in type amp
2-Stk:	large double stack amp
3-Stk:	large triple stack amp

EQ Gain

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

Mid (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid

Mid (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting in which the gain will be affected. Higher values of Q will result in a narrower area being affected.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Sets the modulation speed for the chorus or flanger.

Depth

Sets the modulation depth for the chorus or flanger.

Feedback

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Delay (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Filter

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

83: GUITAR MULTI C

Guitar Multi C connects Overdrive or Distortion (ODDS), Wah (Wah), Amp Simulator (Amp), Delay (Dly), and Chorus or Flanger (CF) effects in series.
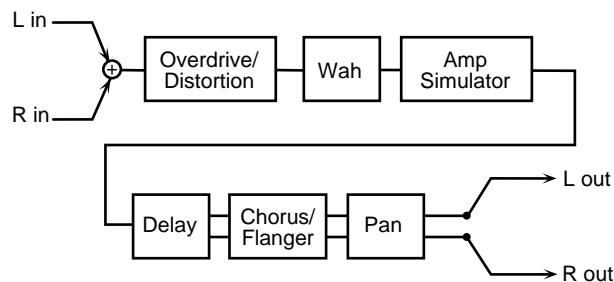
Sequence

Wah Sw (Wah Switch)

Turns the wah on/off.

Amp Sim (Amp Simulator Switch)

Turns the Amp Simulator on/off.

Wah (Wah Switch)

Turns the wah on/off.

Delay (Delay Switch)

Turns the Delay on/off.

Cho/Flg (Chorus/Flanger Switch)

Turns the wah on/off.

Overdrive/Distortion

Type

Selects either Overdrive or Distortion.

Drive

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Tone

Adjusts the sound quality of the Overdrive/Distortion effect.

Level

Adjusts the Overdrive (or Distortion) output level.

Wah

Filter Type (Wah FIlter Type)

Selects the filter type.
LPF: The wah effect will be applied over a wide frequency range.
BPF: The wah effect will be applied over a narrow frequency range.

Rate

Adjusts the frequency of the modulation.

Depth

Adjusts the depth of the modulation.

Sens

Specifies the sensitivity with which the filter will be affected.

Manual

Sets the center frequency from which the effect is applied.

Peak

Adjusts the amount of the wah effect that will occur in the area of the center frequency. Lower settings will produce a wah effect in a broad area around the center frequency, and higher settings will produce a wah effect in a narrower area around the center frequency.

Amp Simulator

Type (Amp Simulator Type)

Selects the type of guitar amp.

Small:	small amp
BltIn:	built-in type amp
2-Stk:	large double stack amp
3-Stk:	large triple stack amp

Delay

Left Time (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right Time (Delay Time Right)

Adjust the delay time from the direct sound until the right delay sound is heard.

Feedback (Delay Feedback Level)

Adjusts the proportion (%) of the delay sound that is fed back into the delay input.

HF Damp

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Balance (Delay Balance)

Adjusts the volume balance between the direct sound and the delay sound.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Sets the modulation speed for the chorus or flanger.

Depth

Sets the modulation depth for the chorus or flanger.

Feedback (CF Feedback)

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Delay (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Filter

Type

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

84: CLEAN GUITAR MULTI A

Clean Guitar Multi 1 connects Compressor (Cmp), Equalizer (EQ), Delay (Dly), and Chorus or Flanger (CF) effects in series.
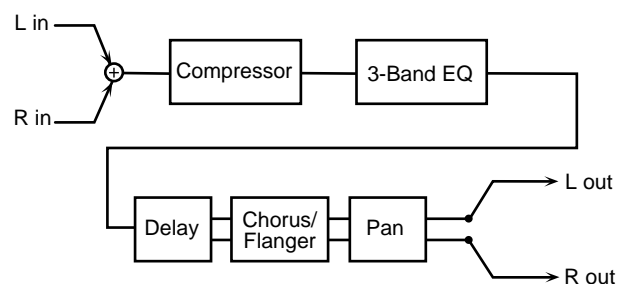
Sequence

Comp (Compressor Switch)

Turns the Compressor on/off.

3 Band EQ (3 Band EQ Switch)

Turns the equalizer on/off.

Delay (Delay Switch)

Turns the Delay on/off.

Cho/Flg (Chorus/Flanger Switch)

Turns the wah on/off.

Compressor

Attack (Compressor Attack)

Specifies the duration of the attack when sound is input.

Sustain (Compressor Sustain)

Specifies the time over which low-level sounds will be boosted to reach the specified volume. Increasing the value will shorten the time.

   * *When the value is modified, the level will also change.*

Level (Compressor Level)

Sets the volume of the compressor sound.

EQ Gain

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

EQ M Gain (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid

Mid Freq (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting in which the gain will be affected. Higher values of Q will result in a narrower area being affected.

Delay

Left Time (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right Time (Delay Time Right)

Adjust the delay time from the direct sound until the right delay sound is heard.

Feedback (Delay Feedback Level)

Adjusts the proportion (%) of the delay sound that is fed back into the delay input.

HF Dump (Delay HF Damp)

Adjusts the frequency above which delayed sound fed back to the delay input will be cut. If you do not want the sound to be cut, select BYPASS.

Balance (Delay Balance)

Adjusts the volume balance between the direct sound and the delay sound.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Sets the modulation speed for the chorus or flanger.

Depth

Sets the modulation depth for the chorus or flanger.

Feedback (CF Feedback)

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Dly (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Filter

Type

Selects the type of filter.
OFF: No filter is used.
LPF: The frequency region above the Cutoff Freq setting will be cut.
HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

85: CLEAN GUITAR MULTI B

Clean Guitar Multi 2 provides Auto-wah (AW), Equalizer (EQ), Delay (Dly), and Chorus or Flanger (CF) effects connected in series.
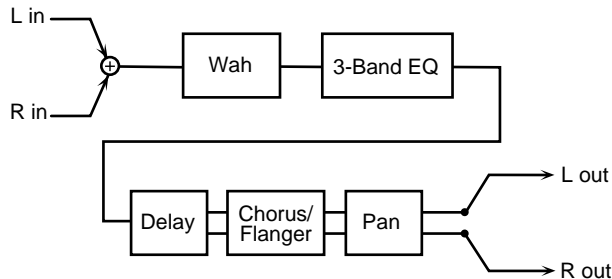
Seqeuence

Wah (Auto Wah Switch)

Turns the Auto Wah on/off.

3 Band EQ (3 Band EQ Switch)

Turns the 3 Band EQ on/off.

Delay (Delay Switch)

Turns the Delay on/off.

Cho/Flg Sw (Chorus/Flanger Switch)

Turns the Chorus/Flanger on/off.

Wah

Filter Type (Auto Wah Filter Type)

Selects the type of filter for the Auto-wah.

LPF: The wah effect will be applied over a wide frequency range.

BPF: The wah effect will be applied over a narrow frequency range.

Rate (Auto Wah Rate)

Sets the modulation speed of the Auto-wah.

Depth (Auto Wah Depth)

Sets the modulation depth of the Auto-wah.

Sens

Specifies the sensitivity with which the filter will be affected.

Manual (Auto Wah Manual)

Sets the center frequency at which the auto-wah effect will be produced.

Peak (Auto Wah Peak)

Adjusts the amount of the wah effect that will occur in the area of the center frequency. Lower settings will produce a wah effect in a broad area around the center frequency, and higher settings will produce a wah effect in a narrower area around the center frequency.

EQ Gain

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

Mid (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid

Mid Freq (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting in which the gain will be affected. Higher values of Q will result in a narrower area being affected.

Delay

Left Time (Delay Time Left)

Adjust the delay time from the original sound until the left delay sound is heard.

Right Time (Delay Time Right)

Adjust the delay time from the direct sound until the right delay sound is heard.

Feedback (Delay Feedback Level)

Adjusts the proportion (%) of the delay sound that is fed back into the delay input.

HF Damp (Delay HF Damp)

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to damp the high frequencies, set this parameter to BYPASS.

Balance (Delay Balance)

Adjusts the volume balance between the direct sound and the delay sound.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Sets the modulation speed for the chorus or flanger.

Depth

Sets the modulation depth for the chorus or flanger.

Feedback (CF Feedback)

Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Dly (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and the chorus/flanger sound.

Filter

Type (Filter Type)

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will be cut.

HPF: The frequency region below the Cutoff Freq setting will be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

86: BASS MULTI

Bass Multi provides Compressor (Comp), Overdrive or Distortion (OD/Dist), Equalizer (3 Band EQ), and Chorus or Flanger (Cho/Flg) effects connected in series.
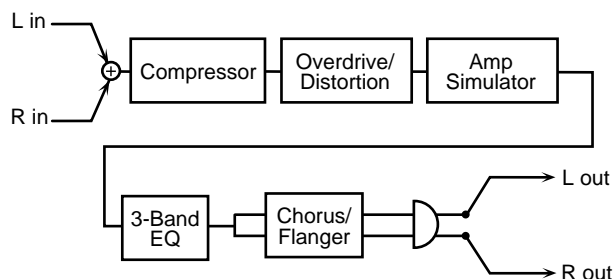
Sequence

Comp (Compressor Switch)

Turns the Compressor on/off.

OD/Dist (Overdrive or Distortion Switch)

Turns the Overdrive or Distortion on/off.

Amp Sim (Amp Simulator)

Turns the Amp Simulator on/off.

3 Band EQ (3 Band EQ Switch)

Turns the 3 Band EQ on/off.

Cho/Flg (Chorus/Flanger Switch)

Turns the Chorus/Flanger on/off.

Compressor

Attack (Compressor Attack)

Specifies the duration of the attack when sound is input.

Sustain (Compressor Sustain)

Specifies the time over which low-level sounds will be boosted to reach the specified volume. Increasing the value will shorten the time.

* *When the value is modified, the level will also change.*

Level (Compressor Level)

Sets the volume of the compressor sound.

Overdrive/Distortion

Type

Selects either Overdrive or Distortion.

Drive

Adjusts the degree of distortion. The volume will change

together with the degree of distortion.

Level (Overdrive/Distortion Level)

Sets the volume of the Overdrive/Distortion sound.

Amp Simulator

Type (Amp Simulator Type)

Selects the type of bass amp.

Small: small amp

BltIn: built-in type amp

2-Stk: large double stack amp

3 Band EQ

Low (EQ Low Gain)

Adjusts the low-range gain of the equalizer.

Mid (EQ Mid Gain)

Adjusts the gain of the area specified by the EQ M Fq
parameter and the EQ M Q parameter.

High (EQ High Gain)

Adjusts the high-range gain of the equalizer.

Mid

Mid Freq (EQ Mid Frequency)

Sets the center frequency for the equalizer mid-range.

Mid Q (EQ Mid Q)

Adjusts the width of the area centered at the EQ M Fq setting
in which the gain will be affected. Higher values of Q will
result in a narrower area being affected.

Chorus/Flanger

Type

Selects either Chorus or Flanger.

Rate

Sets the modulation speed for the chorus or flanger.

Depth

Sets the modulation depth for the chorus or flanger.

Feedback (Feedback Level)

Adjusts the proportion (%) of the flanger sound that is fed
back into the effect. Negative (-) settings will invert the
phase.

Pre Dly (Chorus/Flanger Pre Delay Time)

Adjusts the delay time from the direct sound until when the

chorus sound is heard.

Balance

Adjusts the volume balance between the direct sound and
the chorus/flanger sound.

Filter

Type

Selects the type of filter.

OFF: No filter is used.

LPF: The frequency region above the Cutoff Freq setting will
be cut.

HPF: The frequency region below the Cutoff Freq setting will
be cut.

Cutoff (Cutoff Frequency)

Sets the cutoff frequency when a specific frequency band is
cut off by a filter.

Output

Level (Output Level)

Adjusts the output level.

Pan (Output Pan)

Adjusts the stereo location of the output sound.

87: ISOLATOR 2

This adds a filter to the ISOLATOR effect. Isolator is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.
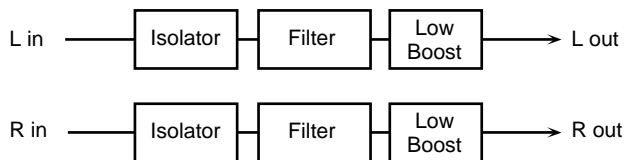
Boost/Cut

Low (Level Low)

Mid (Level Middle)

High (Level High)

These boost and cut the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.

Anti Phase Low

Anti Phase Low Sw (Anti Phase Low Switch)

Anti Phase Low Level

Anti Phase Mid

Switch (Anti Phase Middle Switch)

Level (Anti Phase Middle Level)

This turns the Anti-Phase function on and off and sets the level settings for the Middle and Low frequency ranges. When turned on, the phases of opposite stereo channels are reversed and then added. Adjusting these levels for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo sources.)

Post Filter

Switch (Filter Switch)

Turns the filter on/off.

Type (Filter Type)

Selects the type of filter.

LPF: Passes frequencies below the cutoff frequency.

BPF: Passes frequencies near the cutoff frequency.

HPF: Passes frequencies above the cutoff frequency.

NOTCH: Passes frequencies other than those near the cutoff frequency.

Cutoff (Filter Cutoff Frequency)

Sets the filter's cutoff frequency. The closer to zero it is set, the lower the cutoff frequency becomes; set it closer to 127, and the cutoff frequency becomes higher.

Resonance (Filter Resonance)

Sets the filter's resonance level. Raising the setting increases resonance near the cutoff frequency, producing a uniquely characteristic sound.

Slope (Filter Slope)

Sets the filter's attenuation slope (-24 dB per octave: steep; -12 dB per octave: gentle).

Gain (Filter Gain)

Compensates for the volume dropped in the cut frequency range with some filters. The level of compensation increases as the value is increased, and raise the volume.

Low Boost

Switch (Low Booster Switch)

Specifies whether Low Booster will be used (ON), or not (OFF). This emphasizes the bottom to create a heavy bass sound.

Level (Low Boost Level)

Increasing this value gives you a heavier low end. (Depending on the Isolator and filter settings this effect may be hard to distinguish.)

Output

Level (Output Level)

Adjusts the output level.

88: STEREO SPECTRUM

This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.
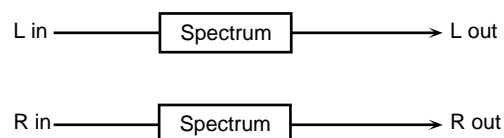
Band Gain

250Hz (250Hz Gain)

Specifies the gain (amount of boost or cut) at 250 Hz.

500Hz (500Hz Gain)

Specifies the gain (amount of boost or cut) at 500 Hz.

1000Hz (1000Hz Gain)

Specifies the gain (amount of boost or cut) at 1000 Hz.

1250 Hz (1250 Hz Gain)

Specifies the gain (amount of boost or cut) at 1250 Hz.

2000 Hz (2000 Hz Gain)

Specifies the gain (amount of boost or cut) at 2000 Hz.

3150 Hz (3150 Hz Gain)

Specifies the gain (amount of boost or cut) at 3150 Hz.

4000 Hz (4000 Hz Gain)

Specifies the gain (amount of boost or cut) at 4000 Hz.

8000 Hz (8000 Hz Gain)

Specifies the gain (amount of boost or cut) at 8000 Hz.

Band Width

Q

Specifies the range of all bands in which the level will be modified.

Output

Level (Output Level)

Adjusts the output level.

89: 3D AUTO SPIN

The 3D Auto Spin effect rotates the location of the sound.
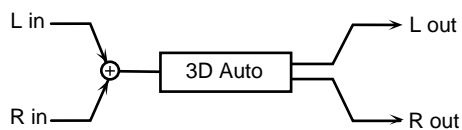
Auto Spin

Azimuth

Sets the location at which the sound will stop when rotation is stopped. A setting of "0" positions the sound in the center.

Speed

Sets the speed of rotation.

Clockwise

Sets the direction of rotation. A setting of "-" produces counterclockwise rotation, while at "+" it will be clockwise.

Turn

Stops or starts the rotation. When this is turned On, the sound will rotate. When turned Off, rotation will stop at the location specified by Azimuth.

Output

Out (Output Mode)

Specifies the method that will be used to reproduce the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.

Level (Output Level)

Adjusts the output level.

90: 3D MANUAL

This places the 3D effect at a desired location.
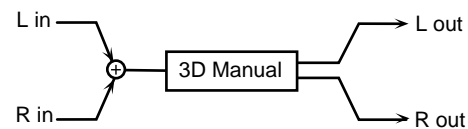
Auto Spin

Azimuth

Specifies the location. A setting of "0" positions the sound in the center.

Output

Out (Output Mode)

Specifies the method that will be used to reproduce the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.

Level (Output Level)

Adjusts the output level.

When Using 3D Effects

The following 3D effects utilize RSS (Roland Sound Space) technology to create a spaciousness that cannot be produced by delay, reverb, chorus, etc.

48: 3D DELAY

60: 3D CHORUS

61: 3D FLANGER

70: 3D DELAY 2

89: 3D AUTO SPIN

90: 3D MANUAL

When using these effects, we recommend that you place your speakers as follows. Also, make sure that the speakers are at a sufficient distance from the walls on either side.
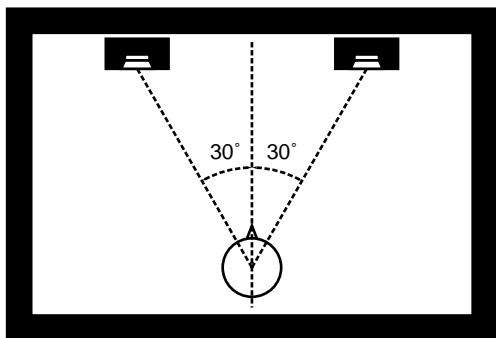
If the left and right speakers are too far apart, or if there is too much reverberation, the full 3D effect may not appear.

Each of these effects has an Out (Output Mode) parameter. If the sound from the OUTPUT jacks is to be heard through speakers, set this parameter to "Speaker." If the sound is to be heard through headphones, set it to "Phones." This will ensure that the optimal 3D effect will be heard. If this parameter is not set correctly, the full 3D effect may not appear.

Copying Effect Settings

You can copy the effect settings from any Patch, Performance, or Rhythm Set into the currently selected Patch, Performance, or Rhythm Set. This can save a great deal of time and effort when setting up effects.

You can select the following effect contents to be copied.

Copy Type

ALL: Multi-effects, Chorus, and Reverb settings

MFX: Multi-effects settings in the General page

CHORUS: Chorus settings

REVERB: Reverb settings

CHO&REV: Chorus and Reverb settings

* *If the copy source is a Performance, the contents copied for "MFX" will be the Multi-effects settings for the Performance itself (the Multi-effects setting when MFX 1–3 Source is set to "PERFORM" in the General page). When the MFX settings such as patches is copied to the Performance, the data will be copied as the Multi-effects settings for the Performance itself.*

1. Make sure the Patch, Performance or Rhythm Set is selected.

2. Press [SYSTEM/UTILITY] several times, getting its indicator to start blinking.

The Utility Menu page appears.

* *When the indicator lights, you are in SYSTEM mode. In this case, press [SYSTEM/UTILITY] once again to get its indicator to start blinking.*

3. Press [F2 (Copy)].

4. Press [▲] to move the cursor to Type, then select EFFECT.

The corresponding Effect Copy page will appear.

Destination "Temporary" indicates that the copy destination is the currently selected Patch, Performance, or Rhythm Set.

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

6. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

7. Press [F6 (Copy)] to execute the copy.

8. Press [EXIT] to return to the Play page.

Chapter 3 Selecting Output Jacks

The XV-5080 has four sets of stereo outputs.

These outputs allow you to separate sounds—or groups of sounds—from the XV-5080's overall stereo mix, and to send them to their own external destinations. For example, you could route a stereo Rhythm Set to a pair of output jacks connected to an external effects device. You can also use the four pairs of jacks as eight independent output jacks, to which you can route Tones, Rhythm Tones or Patches.

Besides all this, the XV-5080 also is equipped with digital outs, including R-BUS and S/P DIF outs.

This section uses clear examples to describe the signal paths in each of the modes along with their related parameters and digital output connectors. Please refer to this section when selecting your outputs.

The digital out (R-BUS and S/P DIF) assignments correspond to the analog outs (OUTPUT A-D (INDIVIDUAL 1-8)) as shown below.

R-BUS 1–8:   OUTPUT A–D (INDIVIDUAL 1–8)

S/P DIF: OUTPUT A (MIX) (INDIVIDUAL 1–2)

The signals sent to each of the R-BUS OUTPUTS 1–8 are output from OUTPUT A–D (INDIVIDUAL 1–8). Signals sent to S/P DIF are output from OUTPUT A(MIX) (INDIVIDUAL 1-2).

*   *Signals sent to PHONES (the headphones jack) are output from OUTPUT A(MIX).*

Patch Mode Settings

Signal (TONE) Flow
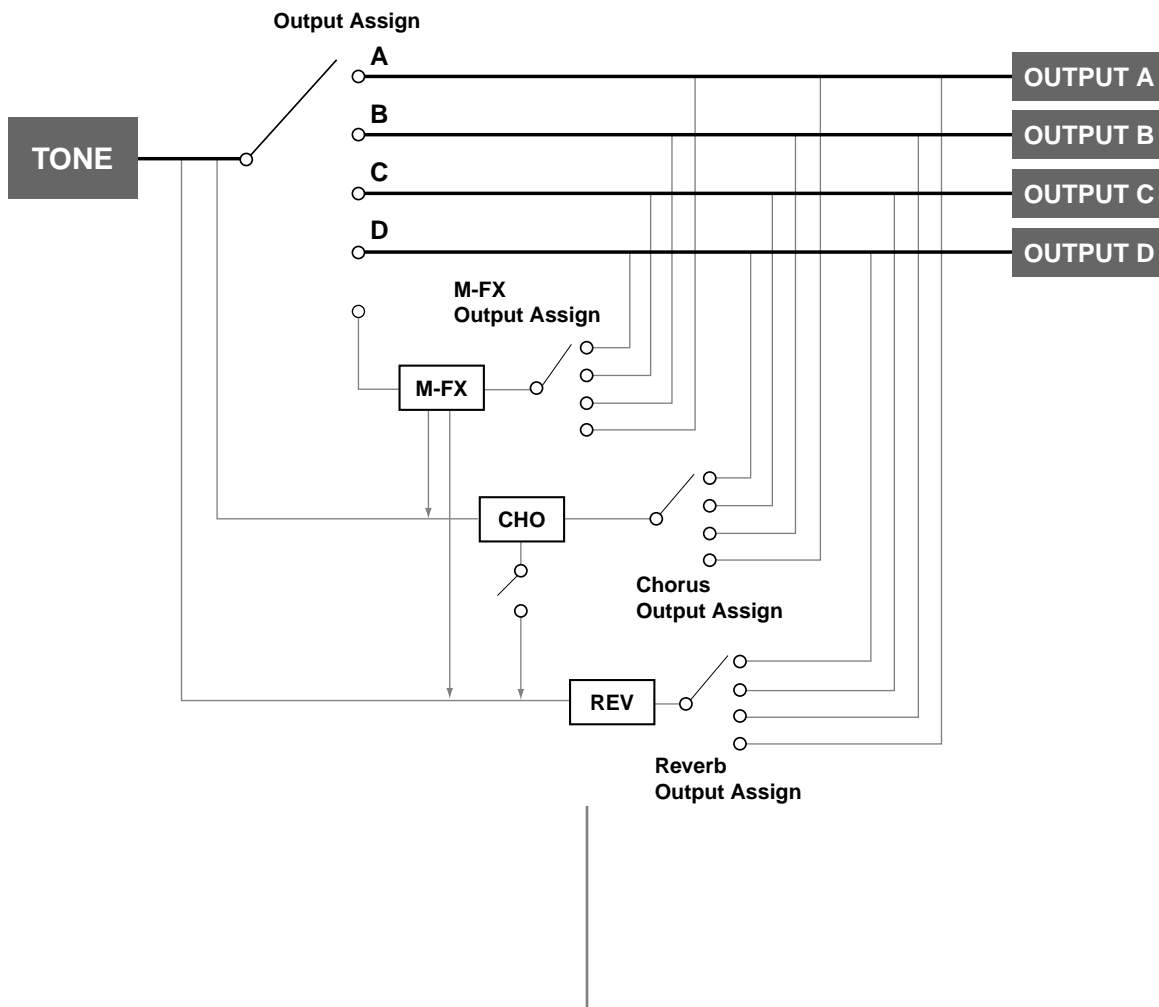
Parameters

The parameters related to Patch output settings are shown below.

PATCH Effects General page ([PATCH] - [F6 (Effects)] - [F1 (General)])

This sets the output destination and level for the currently selected Tone, as well as its send level with respect to the Chorus and Reverb.

Tone Output Assign

Available Settings:

MFX: The Tone is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

OUTPUT A–D: The Tone is sent to one of the four output-jack stereo pairs, OUTPUTS A–D.

INDIV 1–8: The Tone is sent to the INDIVIDUAL OUTPUT jacks 1–8.

Tone Dry Send Level

Range: 0–127

Sets the level of the signal to be sent to the OUTPUT jacks, which is determined by Tone Output Assign.

Tone Chorus Send Level

Range: 0–127

Sets how much of the Tone is sent to the Chorus. Its final output destination is determined by the Chorus output setting.

Tone Reverb Send Level

Range: 0–127

Sets how much of the Tone is sent to the Reverb. Its final output destination is determined by the Reverb output setting.

MFX Dry Send Level

Range: 0–127

Determines the level of the Multi-effects processor's output to the OUTPUT jacks.

MFX Chorus Send Level

Range: 0–127

Determines the level of the post-Multi-effects processor signal sent to Chorus. Its final output destination is determined by the Chorus output setting.

MFX Reverb Send Level

Range: 0–127

Determines the level of the post-Multi-effects processor signal sent to Reverb. Its final output destination is determined by the Reverb output setting.

Chorus Output Select

Specifies how the signal routed through Chorus will be output.

Available Settings:

MAIN: The Chorus output is sent only to the OUTPUT jacks.

REV: The Chorus output is sent only to the Reverb.

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Level

Range: 0–127

Determines the Chorus output level.

Reverb Level

Range: 0–127

Determines the Reverb output level.

MFX Output Assign

Range: A–D

Specifies the OUTPUT jacks to which the signal, after it has passed through the Multi-effects, is to be routed.

* *As the Multi-effects are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Chorus Output Assign

Range: A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "MAIN+R." The output destination of the signal sent to Reverb follows the Reverb setting.

* *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Reverb Output Assign

Range: A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

* *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

PATCH Common General #1 page ([PATCH] - [F1 (COMMON)] - [F1 (General)])

Common

Level (Patch Level)

Range: 0–127

Sets the volume of the Patch.

> * *You can specify the level for each Tone using the Tone Level parameter (TVA; p. 143).*

Pan (Patch Pan)

Range: L64–63R

Sets the stereo position of the Patch. L64 is far left, 0 is center, and 63R is far right.

> * *You can specify the pan setting for each Tone in a Patch using the Tone Pan parameter (TVA; p. 143).*
>
> * *While each of the Tones forming a Patch has its own Pan position, the Patch Pan parameter shifts the individual stereo locations of the Tones by the amount set for it.*

Output Assign

Specifies the output destination for the Patch.

Available Settings:

MFX: The Patch is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

OUTPUT A–D: The Patch is sent to the selected pair of OUTPUT A–D jacks.

INDIV 1–8: The Patch is sent to the selected INDIVIDUAL OUTPUT 1–8 jack.

TONE: Each Tone in the Patch is sent to its programmed output destination.

SYSTEM Output page ([SYSTEM] - [F2 (OutP&EQ)])

Digital Interface

Master Freq (Master Frequency)

Range: 44.1/48 kHz

Selects the clock used for synchronizing the digital output.

Master Clock

Selects the master clock used for synchronizing the digital output.

Available Settings:

INTERNAL: The XV-5080 itself serves as the master.

R-BUS: Operation synchronized to the clock present on the R-BUS. The XV-5080 functions as the slave.

WORD CLOCK IN: Operation synchronized to the word clock. The XV-5080 functions as the slave.

> * *When operating as the slave, the XV-5080 is capable of synchronizing to clocks running at 44.1 or 48 kHz. It cannot sync to clocks at other frequencies.*

Output Mix/Parallel

Mode

Available Settings:

MIX: All sounds—including those routed to OUTPUTs B/C or INDIVIDUAL 3–8—are mixed together and routed to the A (MIX) OUTPUT jacks. This setting allows you to quickly route everything through headphones when you are creating sounds, or to combine all of your sounds into two outputs when sending the XV-5080's signal to a mixer that has only two channels.

When MIX is selected, sounds routed to the INDIVIDUAL OUTPUT 3/5/7 jacks are sent to the left A (MIX) OUTPUT jack, and sounds routed to the INDIVIDUAL OUTPUT 4/6/8 jacks are sent to the right A (MIX) OUTPUT jack.

PARALLEL: Sounds are routed to output jacks according to their output settings.

The XV-5080's Master Level and Mix/Parallel settings are each established using a single global parameter.

SYSTEM General #1 page ([SYSTEM] - [F1 (General)])

Master

Level (Master Level)

Range: 0–127

Adjusts the volume of the entire XV-5080.

Example of Settings

Assigning Different Output Destinations for the Tones in a Patch

In this example, let's suppose we have a Patch composed of four Tones, and we are outputting Tone 1 from the A OUTPUT jacks, Tone 2 from the B OUTPUT jacks, Tone 3 from the INDIVIDUAL 5 jack, and Tone 4 from the INDIVIDUAL 6 jack. The Chorus and Reverb are output from the B OUTPUT jacks.

First, set the output destination for each Tone.

1. Select the Patch you wish to set.

2. Press [F6 (Effects)].

3. Press [F1 (General)] to call up the PATCH Effects General page.

4. Use TONE SELECT [1]–[4] to select the Tone you wish to set up.

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you wish to set, and rotate the VALUE dial, or press [INC] or [DEC] to set the value as follows.

	Tone Output Assign	Tone Dry Send Level	Tone Chorus Send Level	Tone Reverb Send Level
Tone 1	A	127	100	100
Tone 2	B	127	100	100
Tone 3	5	127	100	100
Tone 4	6	127	100	100

MEMO

The Chorus and Reverb send levels can be set to any value you wish other than 0.

6. Press [EXIT] to return to the PATCH PLAY page.

7. Press [F1 (Common)].

8. Press [▲]/[▼] to move the cursor to Output Assign.

9. Turn the VALUE dial or press [INC]/[DEC] to select "TONE."

10. Press [EXIT] to return to the PATCH PLAY page.

Next, select the Chorus output destination and set its overall level.

11. Press [F6 (Effects)].

12. Press [▲]/[▼]/[◄]/[►] to move the cursor to Chorus Output Assign.

13. Turn the VALUE dial or press [INC]/[DEC] to select "B."

14. Press [▲]/[▼]/[◄]/[►] to move the cursor to Chorus Level.

15. Turn the VALUE dial to select "100."

16. Press [▲]/[▼] to move the cursor to Chorus Output Select.

17. Turn the VALUE dial or press [INC]/[DEC] to select "MAIN."

Finally, select the Reverb output destination and set its overall level.

18. Press [▲]/[▼]/[◄]/[►] to move the cursor to Reverb Output Assign.

19. Turn the VALUE dial or press [INC]/[DEC] to select "B."

20. Press [▲]/[▼]/[◄]/[►] to move the cursor to Reverb Level.

21. Turn the VALUE dial to select "100."

22. Press [EXIT] to return to the PATCH PLAY page.

Performance Mode Settings

Signal (PART) Flow
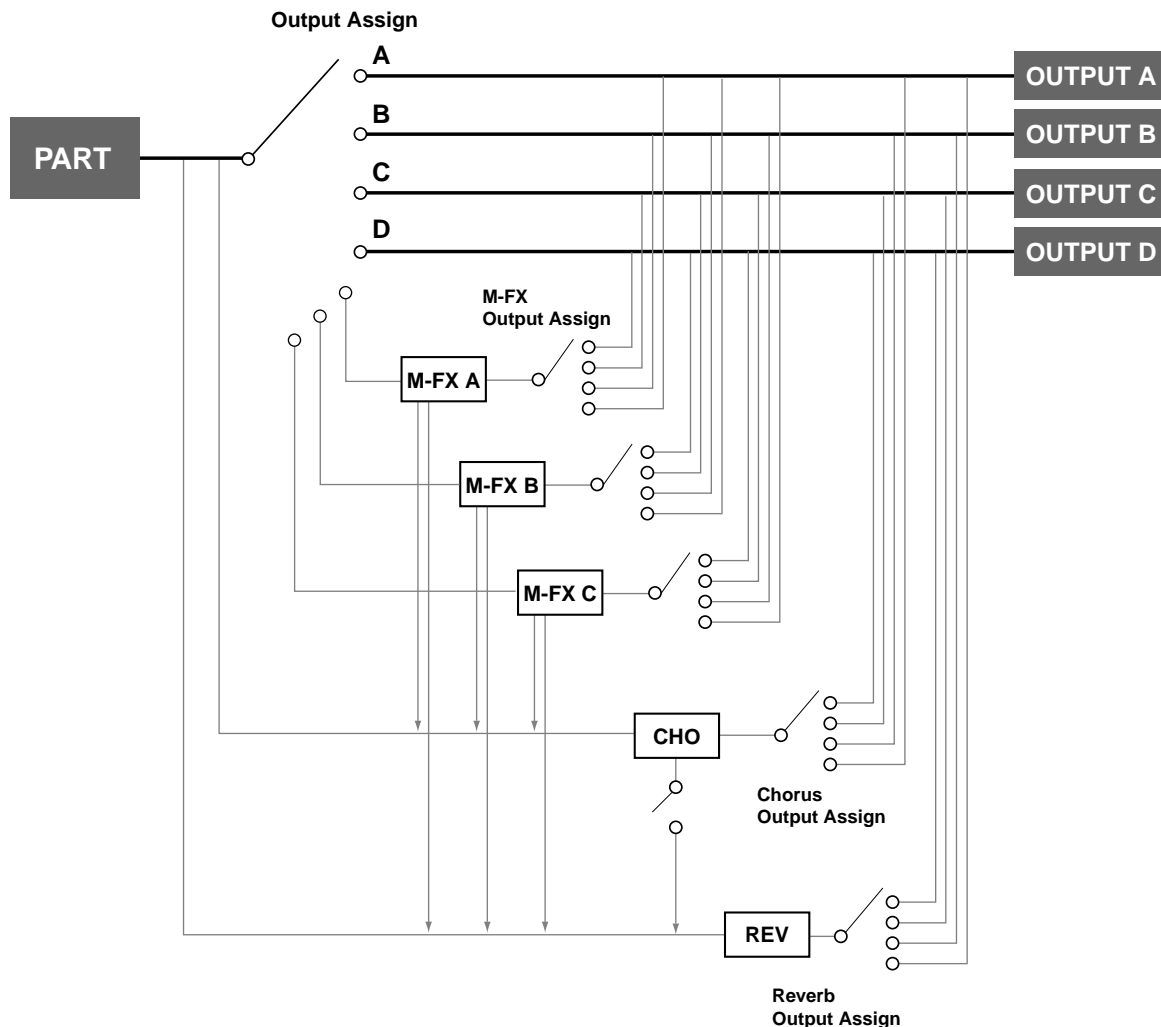
Parameters

The parameters related to Part output settings are shown below.

PERFORMANCE Effects General page ([PERFORM] - [F6 (Effects)] - [F1 (General)])

Sets the output destination and level for the selected Part, as well as its send level with respect to the Chorus and Reverb.

Part Output Assign

Available Settings:

MFX: The Part is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

A–D: The Part is sent to the selected pair of OUTPUT A–D jacks.

1–8: The Part is sent to the INDIVIDUAL OUTPUT jacks 1–8.

PAT: The Part's output destination is determined by the settings of the Patch or Rhythm Set assigned to the Part.

Part Output MFX Select

Available Settings: A–C

Selects which of the three Multi-effects is to be used.

Part Dry Send Level

Range: 0–127

Sets the level of the signal to be sent to the OUTPUT jacks, which is determined by Part Output Assign.

Part Chorus Send Level

Range: 0–127

Sets how much of the Part is sent to the Chorus. Its final output destination is determined by the Chorus output setting.

Part Reverb Send Level

Range: 0–127

Sets how much of the Part is sent to the Reverb. Its final output destination is determined by the Reverb output setting.

MFX Dry Send Level

Range: 0–127

Determines the level of the signal that is to be sent to the output jacks, after passing through the Multi-effects.

MFX Chorus Send Level

Range: 0–127

Determines the level of the signal that is to be sent to Chorus, after passing through the Multi-effects. Its final output destination is determined by the Chorus output setting.

MFX Reverb Send Level

Range: 0–127

Determines the level of the signal that is to be sent to Reverb, after passing through the Multi-effects. Its final output destination is determined by the Reverb output setting.

Chorus Output Select

Specifies how the signal routed through Chorus will be output.

Available Settings:

MAIN: The Chorus output is sent only to the OUTPUT jacks.

REV: The Chorus output is sent only to the Reverb.

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Level

Range: 0–127

Determines the Chorus output level.

Reverb Level

Range: 0–127

Determines the Reverb output level.

MFX Output Assign

Range: A–D

Selects the pair of OUTPUT jacks to which the Multi-effects stereo output is routed.

> * *As the Multi-effects are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Chorus Output Assign

Range: A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "M+R." The output destination setting for the signal sent to Reverb is determined according to the Reverb settings.

> * *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Reverb Output Assign

Range: A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

> * *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

SYSTEM Output page ([SYSTEM] - [F2 (OutP&EQ)])

Output Mix/Parallel

Mode

Available Settings:

MIX: All sounds—including those routed to OUTPUTs B/C or INDIVIDUAL 3–8—are mixed together and routed to the A (MIX) OUTPUT jacks. This setting allows you to quickly route everything through headphones when you are creating sounds, or to combine all of your sounds into two outputs when sending the XV-5080's signal to a mixer that has only two channels.

When MIX is selected, sounds routed to the INDIVIDUAL OUTPUT 3/5/7 jacks are sent to the left A (MIX) OUTPUT jack, and sounds routed to the INDIVIDUAL OUTPUT 4/6/8 jacks are sent to the right A (MIX) OUTPUT jack.

PARALLEL: Sounds are routed to output jacks according to their output settings.

The XV-5080's Master Level and Mix/Parallel settings are each established using a single global parameter.

SYSTEM General #1 page ([SYSTEM] - [F1 (General)])

Master

Level (Master Level)

Range: 0–127

Adjusts the volume of the entire XV-5080.

Example of Settings

Selecting Different Output Destinations for Parts in a Performance

This example describes the procedure for outputting Part 1 from the A (MIX) OUTPUT jacks without sending it through any internal effects, sending Part 2 through the Multi-effects A and then outputting it from the B OUTPUT jack, and outputting Part 3 from the INDIVIDUAL 5 OUTPUT jack without sending it through any internal effects.

First, set Part 1.

1. Select the Performance you wish to use.

2. Press [F6 (Effects)].

3. Press [F1 (General)] several times to call up the Performance Effects General #1 page.

4. Press PART SELECT [1/17] to make its indicator light.

 * *Make sure that the [1-16/17-32] button's indicator is not lit. If the indicator is lit, press [1-16/17-32] to turn it off.*

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to Part Output Assign.

6. Turn the VALUE dial or press [INC]/[DEC] to select "A."

7. Press [▲]/[▼]/[◄]/[►] to move the cursor to Part Dry Send Level.

8. Turn the VALUE dial to select "100."

9. Press [▲]/[▼]/[◄]/[►] to move the cursor to Part Chorus Send Level.

10. Turn the VALUE dial to select "0."

11. Set the Part Reverb Send Level setting to "0" in the same way.

Next, set up Part 2.

12. Press PART SELECT [2/18], getting its indicator to light.

 * *Make sure that the [1-16/17-32] button's indicator is not lit. If the indicator is lit, press [1-16/17-32] to turn it off.*

13. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you wish to set, and rotate the VALUE dial, or press [INC] or [DEC] to set the value as follows.

Part Output Assign	Part Dry Send Level	Part Chorus Send Level	Part Reverb Send Level
MFX-A	100	0	0

MEMO

The Part Dry Send Level can be set to any value you wish other than 0.

14. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you wish to set, and rotate the VALUE dial, or press [INC] or [DEC] to set the value as follows.

MFX Output Assign	MFX Dry Level	MFX Chorus Send Level	MFX Reverb Send Level
B	100	0	0

Finally, set up Part 3.

15. Press PART SELECT [3/19], getting its indicator to light.

 * *Make sure that the [1-16/17-32] button's indicator is not lit. If the indicator is lit, press [1-16/17-32] to turn it off.*

16. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you wish to set, and rotate the VALUE dial, or press [INC] or [DEC] to set the value as follows.

Part Output Assign	Part Chorus Send Level	Part Reverb Send Level
5	0	0

MEMO

The output level can be set to any value you wish other than 0.

17. Press [EXIT] to return to the PERFORM PLAY page.

Rhythm Set Mode Settings

Signal (RHYTHM TONE) Flow
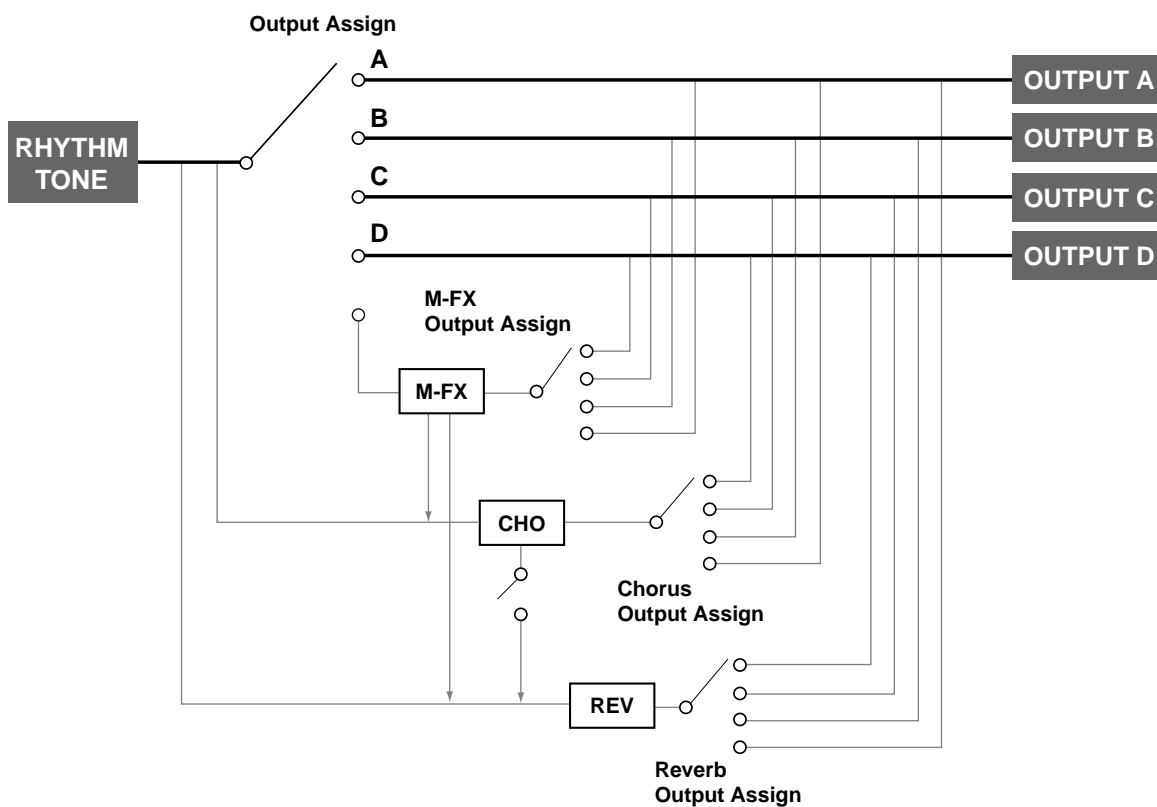
Parameters

The parameters related to Patch output settings are shown below.

RHYTHM Effects General page ([RHYTHM] - [F6 (Effects)] - [F1 (General)])

These parameters set the output destination and level for the currently selected Rhythm Set Tone, and allow you to set its send levels to the Chorus and Reverb.

Rhythm Tone Output Assign

Available Settings:

MFX: The Tone is sent to the Multi-effects. Its output destination is determined by the Multi-effects output settings.

A–D: The Tone is sent to one of the four output-jack stereo pairs, OUTPUTS A–D.

1–8: The Tone is sent to the INDIVIDUAL OUTPUT jacks 1–8.

Rhythm Tone Dry Send Level

Range: 0–127

Sets the level of the signal to be sent to the OUTPUT jacks, which is determined by Rhythm Tone Output Assign.

Rhythm Tone Chorus Send Level

Range: 0–127

Sets how much of the Tone is sent to the Chorus. Its final output destination is determined by the Chorus output setting.

Rhythm Tone Reverb Send Level

Range: 0–127

Sets how much of the Tone is sent to the Reverb. Its final output destination is determined by the Reverb output setting.

MFX Dry Send Level

Range: 0–127

Determines the level of the Multi-effects processor's output to the OUTPUT jacks.

MFX Chorus Send Level

Range: 0–127

Determines the level of the post-Multi-effects processor signal sent to Chorus. Its final output destination is determined by the Chorus output setting.

MFX Reverb Send Level

Range: 0–127

Determines the level of the post-Multi-effects processor signal sent to Reverb. Its final output destination is determined by the Reverb output setting.

Chorus Output Select

Specifies how the signal routed through Chorus will be output.

Available Settings:

MAIN: The Chorus output is sent only to the OUTPUT jacks.

REV: The Chorus output is sent only to the Reverb.

M+R: The Chorus output is sent to the OUTPUT jacks and to the Reverb.

Chorus Level

Range: 0–127

Determines the Chorus output level.

Reverb Level

Range: 0–127

Determines the Reverb output level.

MFX Output Assign

Range: A–D

Selects the pair of OUTPUT jacks to which the Multi-effects stereo output is routed.

  * *As the Multi-effects are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Chorus Output Assign

Range: A–D

Selects the pair of OUTPUT jacks to which the Chorus unit's stereo output is routed when Chorus Output Select is set to "MAIN" or "M+R." The output destination setting for the signal sent to Reverb is determined according to the Reverb settings.

  * *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

Reverb Output Assign

Range: A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

  * *As the internal effects devices are in stereo, you cannot make the settings for the INDIVIDUAL OUTPUT jacks.*

RHYTHM Common page ([RHYTHM] - [F1 (Common)])

Common

Level (Rhythm Level)

Range: 0–127

Sets the volume of the Rhythm Set.

  * *You can specify the level for each Rhythm Tone using the Tone Level parameter (p. 177).*

Output Assign (Rhythm Set Output Assign)

Available Settings:

MFX: The Tone is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

OUTPUT A–D: The Rhythm Tone is sent to the selected OUTPUT A–D jacks.

INDIV 1–8: The Tone is sent to the INDIVIDUAL OUTPUT jacks 1–8.

TONE: Outputs according to the settings for each Rhythm Tone.

SYSTEM Output page ([SYSTEM] - [F2 (OutP&EQ)])

Output Mix/Parallel

Mode

Available Settings:

MIX: Signals that are set to be output from jacks other than the A (MIX) OUTPUT jacks are mixed and output from the A (MIX) OUTPUT jacks. This setting allows you to quickly route everything through headphones when you are creating sounds, or to combine all of your sounds into two outputs when sending the XV-5080's signal to a mixer that has only two channels.

When MIX is selected, sounds routed to the INDIVIDUAL OUTPUT 3/5/7 jacks are sent to the left A (MIX) OUTPUT jack, and sounds routed to the INDIVIDUAL OUTPUT 4/6/8 jacks are sent to the right A (MIX) OUTPUT jack.

PARALLEL: Sounds are routed to output jacks according to their output settings.

The XV-5080's Master Level and Mix/Parallel settings are each established using a single global parameter.

SYSTEM General #1 page ([SYSTEM] - [F1 (General)])

Master

Level (Master Level)

Range: 0–127

Adjusts the volume of the entire XV-5080.

Example Settings

Setting the Output Destination of a Specific Rhythm Tone

This example explains the procedure for outputting the Rhythm Tone assigned to C4 from the INDIVIDUAL 3 OUTPUT jack without sending it through any internal effects.

1. Select the Rhythm Set you wish to set.

2. Press [F6 (Effects)].

3. Press [F1 (General)] to call up the RHYTHM Effects General page.

4. Press TONE SELECT [1]–[4] and set the key at the upper left corner of the display to "C4."

   * *If a MIDI keyboard is connected, you can select C4 by pressing the C4 key on the keyboard.*

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to Rhythm Tone Output Assign.

6. Turn the VALUE dial or press [INC]/[DEC] to select "3."

7. Press [▲]/[▼]/[◄]/[►] to move the cursor to Rhythm Tone Dry Send Level.

8. Turn the VALUE dial to select "100."

9. Press [▲]/[▼]/[◄]/[►] to move the cursor to Rhythm Tone Chorus Send Level.

10. Turn the VALUE dial to select "0."

11. Set the Rhythm Tone Reverb Send Level setting to "0" in the same way.

12. Press [EXIT] to return to the RHYTHM PLAY page.

13. Press [F1 (Common)].

14. Press [▲]/[▼] to move the cursor to Output Assign.

15. Turn the VALUE dial or press [INC]/[DEC] to select "TONE."

16. Press [EXIT] to return to the RHYTHM PLAY page.

Settings in General MIDI Mode

Signal (PART) Flow

Output Assign

Part

A → OUTPUT A
B → OUTPUT B
C → OUTPUT C
D → OUTPUT D

Out (GM CHORUS)

CHO

Rev (GM CHORUS)

REV

Out (GM REVERB)
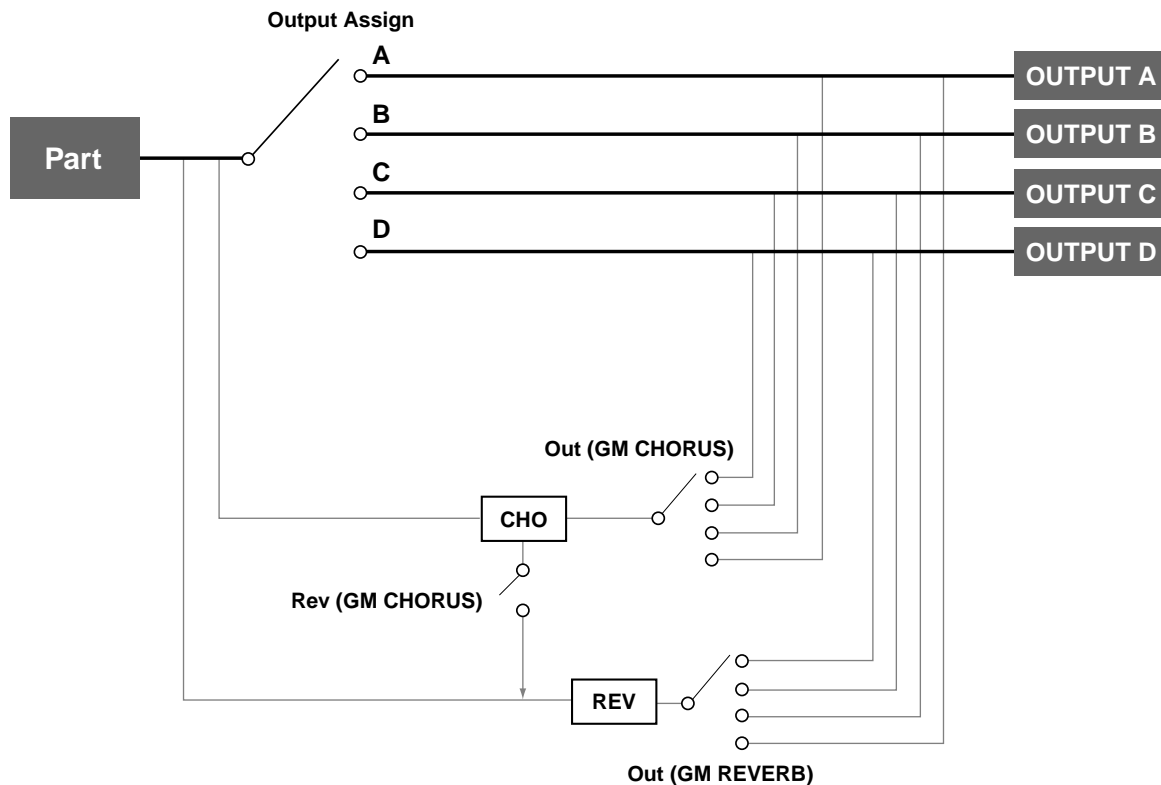
Parameters

The parameters related to Part output settings are shown
below.

GM Effects General page ([GM] - [F6 (Effects)] - [F1 (General)])

Sets the output destination and level for the selected Part, as
well as its send level with respect to the Chorus and Reverb.

Part Output Assign

Sets the output destination for each Part.

Available Settings:

A–D: The Part is sent to the selected pair of OUTPUT A–D
jacks.

Part Dry Send Level

Range: 0–127

Sets the level of the signal to be sent to the OUTPUT jacks,
which is determined by Part Output Assign.

Part Chorus Send Level

Range: 0–127

Sets how much of the Tone is sent to the Chorus. Its final
output destination is determined by the Chorus output
setting.

Part Reverb Send Level

Range: 0–127

Sets how much of the Tone is sent to the Reverb. Its final
output destination is determined by the Reverb output
setting.

Chorus Output Assign

Range: A–D

Selects the OUTPUT jacks to which the Chorus unit's stereo
output is routed.

* *As the internal effects processors are in stereo, settings for the
INDIVIDUAL OUTPUT jacks are unavailable.*

Reverb Send Level

Range: 0–127

Sets the amount of the Chorus unit's output to be sent to the Reverb. Its final output destination is determined by the Reverb output setting.

Reverb Output Assign

Range: A–D

Selects the OUTPUT jacks to which the Reverb unit's stereo output is routed.

> * *As the internal effects processors are in stereo, settings for the INDIVIDUAL OUTPUT jacks are unavailable.*

SYSTEM Output page ([SYSTEM] - [F2 (OutP&EQ)])

Output Mix/Parallel

Mode

Available Settings:

MIX: Signals that are set to be output from jacks other than the A (MIX) OUTPUT jacks are mixed and output from the A (MIX) OUTPUT jacks. This setting allows you to quickly route everything through headphones when you are creating sounds, or to combine all of your sounds into two outputs when sending the XV-5080's signal to a mixer that has only two channels.

When MIX is selected, sounds routed to the INDIVIDUAL OUTPUT 3/5/7 jacks are sent to the left A (MIX) OUTPUT jack, and sounds routed to the INDIVIDUAL OUTPUT 4/6/8 jacks are sent to the right A (MIX) OUTPUT jack.

PARALLEL: Sounds are routed to output jacks according to their output settings.

The XV-5080's Master Level and Mix/Parallel settings are each established using a single global parameter.

SYSTEM General #1 page ([SYSTEM] - [F1 (General)])

Master

Level (Master Level)

Range: 0–127

Adjusts the volume of the entire XV-5080.

Digital Connections Using R-BUS

The XV-5080 comes equipped with an R-BUS connector. This connector allows you to make an eight-channel digital connection using a single R-BUS cable (RBC-1/RBC-5; optional). In addition, you can connect the R-BUS connector to a DIF-AT, AE-7000, or other such digital device, making it possible for you to convert to different digital formats.

  * *The XV-5080's R-BUS is for output only.*

NOTE

Only the R-BUS devices listed in the Owner's Manual may be connected to the R-BUS (RMDB2) connector. Be careful not to connect any other devices (such as SCSI-type devices, RS-232C-type devices, parallel-type devices, etc.) even though they have similar-looking connectors. Use only a specially designed R-BUS (RMDB2) cable to make connections.

Parameters

SYSTEM Output page ([SYSTEM] - [F2 (Outp&EQ)])
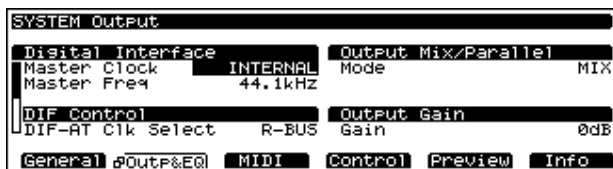
Digital Interface

Master Clock

This sets the master clock used for the output.

Settings Values:

INTERNAL: The XV-5080 serves as the master.

R-BUS: Synchronizes to the clock arriving at R-BUS. The XV-5080 operates as the slave.

WORD CLOCK IN: Synchronizes to the clock arriving at WORD CLOCK. The XV-5080 operates as the slave.

  * *When the XV-5080 operates as a slave, it can be synchronized to clocks running at 44.1 kHz or 48 kHz. It cannot be synchronized to clocks running at other rates.*

  * *The sync status is indicated in parentheses. "Unlocked" means that the devices are not synchronized.*

Master Freq (Master Frequency)

Settings Values: 44.1/48 kHz

This sets the master clock used for the output.

DIF Control

DIF-AT Clk Select (DIF-AT Clock Select)

This selects the source of the DIF-AT synchronization signal when digital signals between digital devices are synchronized.

  * *This setting is required only when synchronizing signals with an ADAT or DA-88 through the DIF-AT.*

Settings Values:

R-BUS: The synchronization signal input through the DIF-AT's R-BUS connector is used for the master.

ADAT: The synchronization signal input through the DIF-AT's ADAT connector is used for the master.

DA-88: The synchronization signal input through the DIF-AT's DA-88 connector is used for the master.

Here is the basic procedure for making the settings.

1. Press [SYSTEM/UTILITY], causing the indicator to light.

  * *If the indicator is flashing, it means that the XV-5080 is in Utility mode. In this case, press [SYSTEM/UTILITY] once more so the indicator is lit, but not flashing.*

2. Press [F2 (Outp&EQ)] to display the SYSTEM Output screen.

3. Press [▲], [▼], [◄], or [►] to move the cursor to the parameter you want to set.

4. Turn the VALUE dial or press [INC] or [DEC] to set the value.

  * *If you happen to make a mistake with a setting and press [UNDO], the parameter reverts to the value in effect when the cursor was moved to the parameter.*

5. Press [EXIT] to return to the current PLAY screen

Output Gain

Gain

Settings Values: -12, -6, 0, +6, +12 dB

This adjusts the output gain from the XV-5080's Analog Out and Digital Out. When, for example, there are relatively few voices being sounded, boosting the output gain can let you attain the most suitable output level for recording and other purposes.

Chap.3

Eight-Channel R-BUS Digital Connection

VM-3100Pro

XV-5080

W —— R-BUS
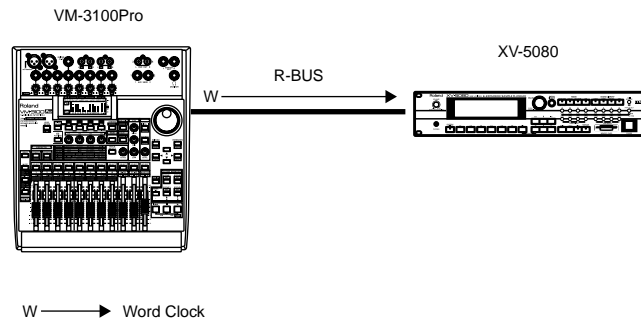
W ——▶ Word Clock

XV-5080 ——–> Device Equipped with R-BUS Connector (One Example)

When Making the XV-5080 the Word Clock Master

- XV-5080 Settings

    Master Clock: INTERNAL

    Master Freq: 44.1 or 48.0 kHz (set to match the sampling rate of the connected device)

- VM-3100 Pro R-BUS Settings

    MasterClk: RMDB-2

- VM-7100/7200 R-BUS Settings

    WORD CLOCK SOURCE:MULTI 1-8

- VSR-880 R-BUS Settings

    SYS:MasterClk:R-BUS

When Making the XV-5080 the Word Clock Slave

- XV-5080 Settings

    Master Clock: RBUS

- VM-3100 Pro R-BUS Settings

    MasterClk: INTERNAL

- VM-7100/7200 R-BUS Settings

    WORD CLOCK SOURCE:INTERNAL

- VSR-880 R-BUS Settings

    SYS:MasterClk:INT

Converting to the Various Digital Formats

Digital Output to an ADAT

Connect a DIF-AT, and you'll then be able to output to an ADAT.

When Making the XV-5080 the Word Clock Master
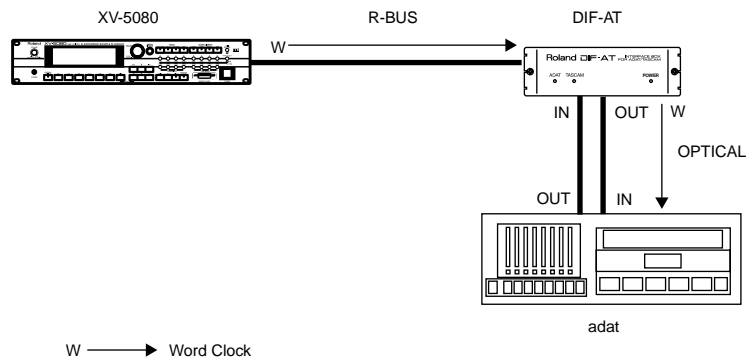
W ———▶ Word Clock

Settings

- XV-5080 Settings

  Master Clock: INTERNAL

  Master Freq: 44.1 or 48.0 kHz (set to match the sampling rate of the connected device)

  DIF-AT Clk Select:R-BUS

- ADAT Settings

  CLOCK: DIG

  INPUT: DIGITAL

When Making the XV-5080 the Word Clock Slave Settings

- XV-5080 Settings

  Master Clock: R-BUS

  DIF-AT Clk Select:ADAT

- ADAT Settings

  CLOCK: INT

INPUT: DIGITAL

Digital Output to a TASCAM DA Series

Connecting a DIF-AT then allows you to output to a TASCAM DA Series device.

TASCAM DA series
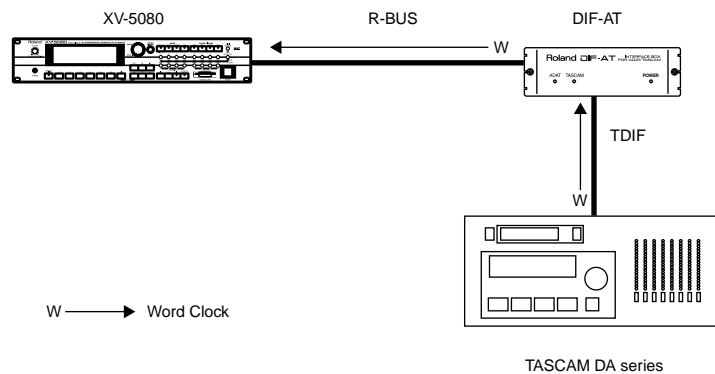
When Making the XV-5080 the Word Clock Master

Settings

You cannot make these settings (the DIF-AT cannot be used as Word Clock Slave with TASCAM devices).

When Making the XV-5080 the Word Clock Slave

Settings

- XV-5080 Settings

    Master Clock: R-BUS

    DIF-AT Clk Select:DA-88

- TASCAM Settings

    CLOCK: INT

    DIGITAL IN: ON

Digital Output to an AES/EBU Device

Connecting an AE-7000 then allows you to output to an AES/EBU device.

When Making the XV-5080 the Word Clock Slave Settings
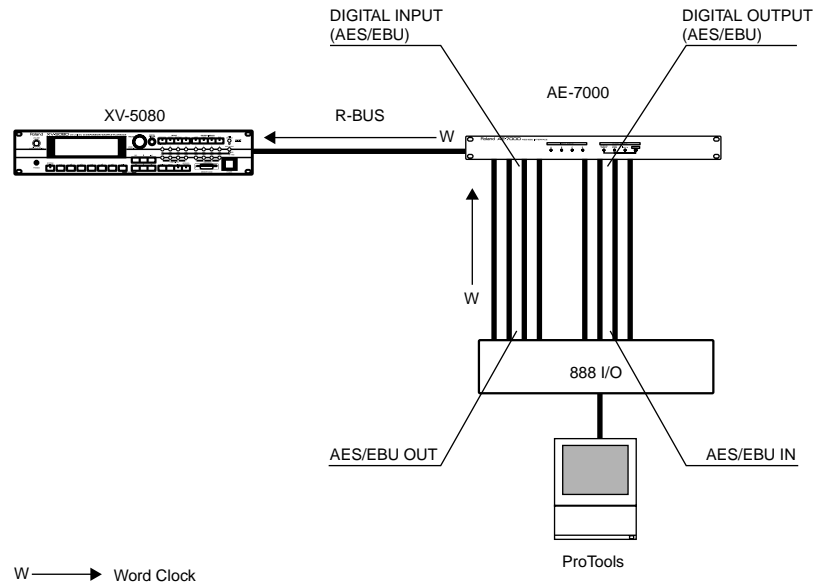
W ———▶ Word Clock

- XV-5080 Settings

    Master Clock: R-BUS

- AE-7000 Settings

    CLOCK SOURCE SELECT:WORD CLOCK or INPUT A (for detailed instructions, refer to the AE-7000 manual)

When Making the XV-5080 the Word Clock Master

Settings

- XV-5080 Settings

    Master Clock: INTERNAL

    Master Freq: 44.1 or 48.0 kHz (set to match the sampling rate of the connected device)

- AE-7000 Settings

    CLOCK SOURCE SELECT:R-BUS

Synchronizing the XV-5080 to the Word Clock arriving at WORD CLOCK IN
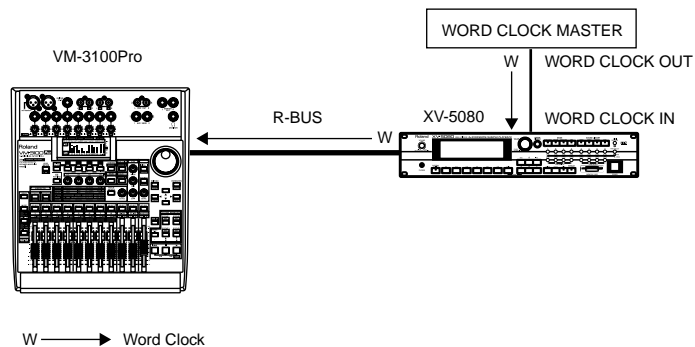
W ———▶ Word Clock

Settings

- XV-5080 Settings

    Master Clock: WORD CLOCK IN

- Word Clock Master Device Settings

    Set the sampling rate for the device acting as Word Clock Master to 44.1 or 48.0 kHz.

*   *Word Clock signals input at WORD CLOCK IN are output through R-BUS and S/P DIF.*

Chapter 4 Creating Patches

Types of Patches and Their Composition

The basic unit of sound used in performances on the XV-5080 is called a Patch; there are two types of Patches, Four-Tone Patches and Multi-Partial Patches.

The Patch type is determined by the Tone type setting, in the Patch Common screen (p. 127).

You do not need to be particularly aware of such distinctions when playing Patches. However, when changing Patch settings or creating new Patches, the parameters used differ depending on the Patch type.

Four-Tone Patch

These correspond to the XV-5080's Preset Patches and Wave Expansion Board Patches.

Each Four-Tone Patch can contain up to four Tones.
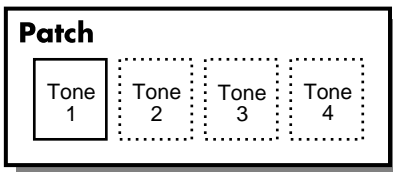
Example 1:A Patch consisting of only one Tone
(Tones 2–4 are turned off).
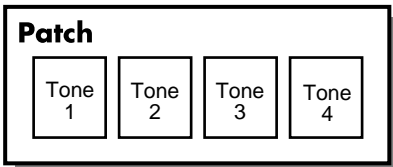
Example 2: A Patch consisting of four Tones.

You can turn the Tones in a Patch on or off. Only Tones that are turned on are heard when you play the Patch. (p. 126)

You can also specify how Tones 1 and 2 and Tones 3 and 4 will be combined (Structure). (p. 131)

How a Tone Is Organized

In the XV-5080, the Tone is the smallest class of sound. However, it is not possible to play a Tone by itself. The Patch is the unit of sound that can be played, and Tones are the basic building blocks used to form a Patch. A Tone consists of the following five components.

audio signal   control signal
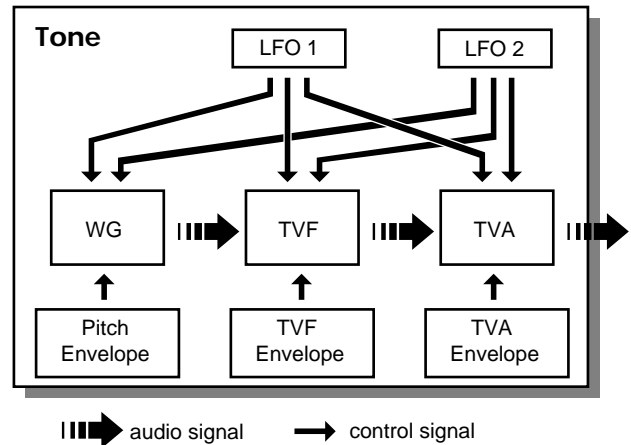
WG (Wave Generator)

Provides for the selection of PCM waveforms (waves), which form the basis of the sound, and provides settings that determine how the pitch of the sound will change.

The XV-5080 offers 1083 different waveforms. (See Waveform List p. 277.) Two waveforms can be assigned to each Tone. (These can be assigned as a stereo pair, with one waveform assigned to the left, and one to the right.)

All Patches onboard the XV-5080 consist of combinations of Tones, which in turn are composed of these waveforms. You can use the force with which keys are played, or MIDI messages to control the way each Tone is played. This is referred to as the Tone Mix Table (TMT).

Additionally, you can load Wave data (samples) into the XV-5080 from sampler libraries and assign this data to the Tones.

TVF (Time Variant Filter)

Specifies how the constituent frequencies of the Tone will change.

TVA (Time Variant Amplifier)

Specifies how the volume will change, and controls the localization.

Envelope

An envelope applies changes to the Tone over time. There are separate envelopes for Pitch, TVF (filter), and TVA (volume). For example, you would use the TVA Envelope to modify the way in which the Tone attacks and decays.

LFO (Low Frequency Oscillator)

Use the LFO to create cyclical changes—or cyclical "modulation"—in a Tone. Each Tone has two LFOs. An LFO can be applied to the Tone's pitch settings, TVF (filter), and TVA (volume). When an LFO is applied to pitch, a vibrato effect is produced. When an LFO is applied to the TVF cutoff frequency, a wah-wah effect is produced. When an LFO is applied to the TVA volume, a tremolo effect is produced.

Multi-partial Patch

Patches using data loaded into the XV-5080 from sampler
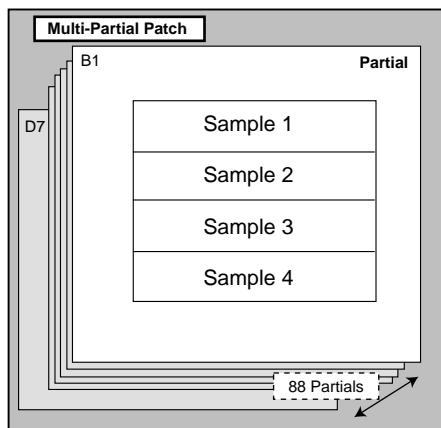
libraries are of this type.

Multi-Partial Patches are created by assigning the constituent sounds, called Partials, to the keys on the keyboard, with up to 88 Partials being assignable.

One difference between Tones and Partials is that whereas Tones are composed of two waveforms, Partials may contain up to four samples (Wave data).

* *Multi-Partial Patches are created using samples (Wave data) loaded into the SIMM (memory module) (internal Waves cannot be used). To do this, you need a separate device to load the samples from a sampler library or other source to the XV-5080. (p. 181)*

How a Partial Is Organized

The sounds from which Multi-Partial Patches are composed
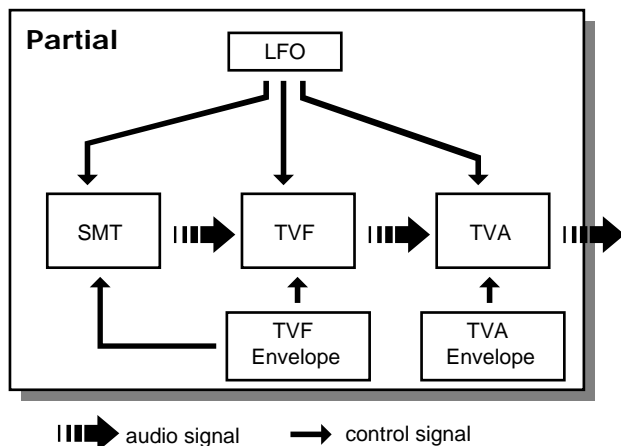
are called Partials. Partials may comprise up to four samples, and are composed using the following five elements.

SMT (Sample Mix Table)

Selects the sample to be used as the source of the sound.

You can use the key touch and MIDI messages to control the way each sample is played.

TVF (Time Variant Filter)

Specifies how the constituent frequencies of the Tone will change.

TVA (Time Variant Amplifier)

Specifies how the volume will change, and controls the localization.

Envelope

An envelope applies changes to the Tone over time. There are separate envelopes for Pitch, TVF (filter), and TVA (volume). For example, you would use the TVA Envelope to modify the way in which the Tone attacks and decays.

The TVF envelope can be used to change not only the cutoff frequency, but also the pitch.

LFO (Low Frequency Oscillator)

Use the LFO to create cyclical changes—or cyclical "modulation"—in a Tone. Each Tone has an LFO. An LFO can be applied to the Tone's pitch settings, TVF (filter), and TVA (volume). When an LFO is applied to pitch, a vibrato effect is produced. When an LFO is applied to the TVF cutoff frequency, a wah-wah effect is produced. When an LFO is applied to the TVA volume, a tremolo effect is produced.

Selecting the Tones That Will Sound (Tone On/Off)

Here's how to turn on the Tones that you want to hear in a Patch. You can also use the on/off technique described in this section to audition an individual Tone by turning off all the other Tones in a Patch.

Select the Patch you wish to use.

1. Make sure that the PATCH PLAY page is displayed.

2. Hold down [SHIFT] and press TONE SW [1]–[4] to switch the corresponding Tone on so that its indicator lights, or off so that its indicator goes dark.

3. The PATCH PLAY page indicates the Tones that are on as follows. Tones that are off are shown as "-."

Settings Common to the Entire Patch

Setting Procedure:

1. Select the Patch you're going to use.

2. Press [F1 (COMMON)].

3. Use [F1]–[F5] to select the page containing the parameter you wish to set.

   * *When the setting pages are displayed, you can press TONE SWITCH [1]–[4] to turn each Tone on/off.*

4. Use [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Either turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

6. Press [EXIT] to return to the PATCH PLAY page.

A "*" symbol will appear at the left of the Patch name, indicating that the settings have been modified.

   * *If you turn off the power or select another Patch while the "*" symbol is displayed, your new Patch settings will be lost. If you wish to preserve them, save the modified Patch using the Write operation.(p. 194)*

Common (Patch Common)

PATCH Common General #1 page ([PATCH] - [F1 (General)])

Common

name (Patch Name)

You can give a Patch a name using up to 12 characters.

Press [◄] or [►] to move the cursor, and then create the

name by turning the VALUE dial or pressing the [INC] or [DEC] buttons to select the desired characters.

Available characters/symbols:

space, A-Z, a-z, 0-9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←

   * *Pressing the VALUE dial displays the Patch Name window, in which you can use the following functions.*

   [F2 (←Prev)]: Move back one character.
   [F3 (Next→)]: Move forward one character.
   [F4 (Insert)]: Insert a blank space at the cursor position.
   [F5 (Delete)]: Delete the character at the cursor position.
   [F6 (OK)]: Confirm the selected name.

Category (Patch Category)

Specifies the type (category) of the Patch.

The Patch Finder uses this setting. It also determines the phrase that will be heard when you audition the Patch using the Phrase Preview feature.

For details on the possible category names, refer to p. 19.

Patch Type

Range: 4TONES/MULTI-PARTIAL

Sets the Patch type (Four-Tone Patch, or Multi-partial Patch).

Level (Patch Level)

Range: 0–127

Sets the volume of the Patch.

   * *The volume of each Tone/Partial is set by the Tone Level (TVA; p. 143) or the Partial Level (TVA; p. 155) .*

Pan (Patch Pan)

Range: L64–0–63R

Sets the stereo position of the Patch. L64 is far left, 0 is center, and 63R is far right.

   * *The pan of each Tone/Partial is set by the Tone Pan (TVA; p. 143) or the Partial Pan (TVA; p. 155).*

   * *While each Tone/Partial in a Patch has its own Pan position, the Patch pan setting shifts the entire Patch – including all of its Tones/Partials – leftward or rightward.*

Output Assign (Patch Output Assign)

Specifies the output destination for the Patch.

Range:

MFX: The Patch is sent into the Multi-effects. Its output destination is determined by the Multi-effects output settings.

OUTPUT A–D: The Patch is sent to the selected pair of OUTPUT A–D jacks. (Stereo output)

INDIV 1–8: The Patch is sent to the selected INDIVIDUAL 1–8 jack. (Mono output)

TONE/KEY: The output routing is determined by the settings of each Tone/Partial.

Octave&Tune (Patch Octave & Tune)

Octave Shift

Range: -3– +3

Sets the pitch of the Patch in units of an octave (+/-3 octaves).

*   *This setting can also be adjusted from the PATCH PLAY page. (p. 17)*

Coarse Tune

Range: -48– +48

Adjusts the pitch of Tone/Partial in semitone steps (-4– +4 octaves).

Fine Tune

Range: -50– +50

Adjusts the pitch of the Tone/Partial in 1-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

Stretch Tune Depth

Range: OFF/1/2/3

This setting allows you to apply "stretched tuning" to the Patch. Acoustic pianos typically use stretch tuning, with their lower range slightly flatter and their higher range slightly sharper than the actual mathematical tuning ratios dictate. Stretch is therefore useful when programming a Patch intended to sound like a real piano. With a setting of OFF, the Patch's tuning will be equal temperament. A setting of 3 will produce the greatest difference in the pitch of the low and high ranges.

This diagram shows the pitch change relative to equal temperament that will occur in the low and high ranges. Stretch will have a subtle effect on the way in which chords resonate.
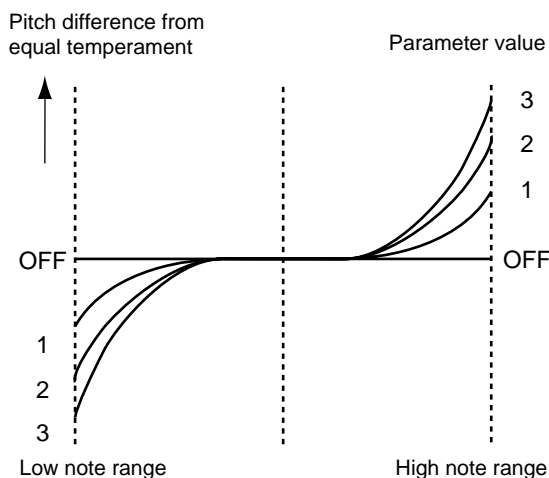
Analog Feel (Analog Feel Depth)

Range: 0–127

Specifies the depth of 1/f modulation that is to be applied to the Patch. (1/f modulation is a pleasant and naturally-occurring ratio of modulation that occurs in a babbling brook or rustling wind.)

By adding this "1/f modulation," you can simulate the natural instability characteristic of an analog synthesizer.

PATCH Common General #2 page ([PATCH] - [F1 (General)])

Modify (Patch Modify)

Cutoff Offset

Range: -63– +63

This simultaneously lowers or raises the individual TVF cutoff frequency values of the Tones/Partials in the Patch.

Resonance Offset

Range: -63– +63

This simultaneously lowers or raises the individual TVF resonance values of the Tones/Partials in the Patch.

Attack Offset (Attack Time Offset)

Range: -63– +63

This simultaneously lowers or raises the individual TVA ENVELOPE T1 values of the Tones/Partials in the Patch.

With Multi-Partial Patches, only TVA changes.

Release Offset

Range: -63– +63

This simultaneously lowers or raises the individual TVA ENVELOPE T4 values of the Tones/Partials in the Patch. With Multi-Partial Patches, only TVA changes.

Velo Sens Offset (Velocity Sensitivity Offset)

Range: -63– +63

Sets the relative ratio of change of the TVF VELOCITY V-Cutoff and TVA V-Sens values set in each of the Tones/Partials comprising the Patch.

Tempo (Patch Tempo)

Clock Source (Patch Clock Source)

The LFO cycle, M-FX changes, phrase loop (break beats), and Tone/Partial delay time can be synchronized to a clock, or tempo. The Clock Source setting selects the timing reference to be used by the Patch.

Available Settings:

PATCH: The Patch Tempo will be used.

SYSTEM: The global System Tempo or clock messages received from an external sequencer will be used.

Tempo (Patch Tempo)

Range: 20–250

When Clock Source is set to "PATCH," this setting establishes the Patch's tempo.

* *Clock messages for the Patch Tempo are not transmitted from the MIDI OUT jack.*

Voice Priority

This determines how notes will be managed when the XV-5080's maximum polyphony limit is exceeded (128 voices).

Available Settings:

LAST: The last-played voices will be given priority, and currently sounding notes will be turned off in order, beginning with the first-played note.

LOUDEST: The voices with the loudest volume will be given priority, and currently sounding notes will be turned off, beginning with the lowest-volume voice.

One Shot Mode

Range: OFF/ON

This causes all the samples assigned to a selected Patch in Loop mode (p. 151) to be played all together (One Shot).

* *This function cannot be used with internal waves, and waves on Wave Expansion Boards.*

* *Loop mode settings cannot be changed for individual samples.*

Control (Patch Control)

PATCH Common Control page ([PATCH] - [F2 (Control)])

Key Mode (Key Assign Mode)

Key Assign (Patch Key Assign)

This sets how the Patch's notes will be played. The SOLO setting is effective when playing a solo instrument Patch such as sax or flute.

MONO: Only one note will sound at a time.

POLY: Two or more notes can be played simultaneously.

Legato Switch

Range: OFF/ON

Turn this parameter on when you want to use the Legato feature and off when you don't. Legato is a function that works only when the Key Assign Mode is MONO. When Legato is ON, pressing one key when another is already pressed causes the currently playing note's pitch to change to that of the newly pressed key while continuing to sound. This can be effective when you wish to simulate performance techniques such as a guitarist's hammering on and pulling off strings.

Legato Retrigger

Range: OFF/ON

The setting determines whether sounds are replayed or not when performing legato. Normally you will leave this parameter "ON." When Delay Keyfollow is set to OFF, if one key is pressed while another key is held down, only the pitch changes, which with some waveforms may result in unnatural sound. Set this to "OFF" when performing wind and string phrases or when using modulation with the mono synth keyboard sound.

* *If the Legato Switch is "OFF," this setting is ignored.*

* *Let's say you have the Legato Switch set to "ON," and the Legato Retrigger set to "OFF." When you try to sound a legato (by pressing a higher key while a lower key is held down), the pitch may sometimes not be able to rise all the way to the intended pitch (stopping instead at an intermediate pitch). This can occur because the limit of pitch rise, as determined at the wave level, has been exceeded. Additionally, if differing upper pitch limits are used for the waves of a Patch*

that uses multiple tones, it may stop being heard in MONO. When making large pitch changes, set the Legato Retrigger to "ON."

Bender

Sets the bend range.

Bend Range Up

Range: 0–48

Specifies the amount (in semitones) of pitch bend that will occur when the bender lever of a connected MIDI keyboard is moved to the far right position (or for a wheel, the fully upward position). For example, with a setting of 12, moving the pitch bend lever to the far right position will raise the pitch 1 octave.

Bend Range Down

Range: 0–48

Specifies the amount (in semitones) of pitch bend that will occur when the bender lever of a connected MIDI keyboard is moved to the far left position (or for a wheel, the fully downward position). For example, with a setting of 48, moving the pitch bend lever to the far left position will raise the pitch 4 octave.

Portament (Patch Portamento)

Portamento is a function that causes the Patch's pitch to change smoothly from one note to the next note played. When the Key Assign Mode is MONO, this can be effective in simulating performance techniques such as a violinist's glissando.

Switch (Portamento Switch)

Range: ON/OFF

Turn this switch on when you wish to use Portamento.

Mode (Portamento Mode)

Selects the way in which Portamento will be applied.
Available Settings:
NORMAL: Portamento will always be applied.
LEGATO: Portamento will be applied for notes played legato (i.e., notes played before the previous note is released).

Type (Portamento Type)

Determines the way in which the pitch difference between the two notes will affect the time it takes to glide from one note to the next.
Available Settings:
RATE: The time it takes will depend on the distance between the two pitches.

TIME: The time it takes will be constant, regardless of how far apart in pitch the notes are.

Start (Portamento Start)

Portamento will begin anew if you press another key during a pitch movement. This setting specifies how the new portamento will start.
Available Settings:
PITCH: The pitch will begin changing immediately to the new note's pitch when its key is pressed.
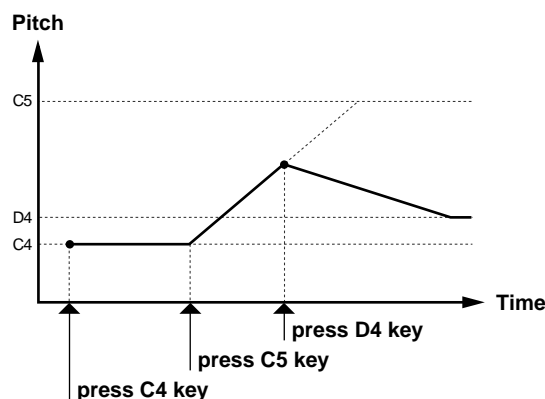
NOTE: The pitch will begin changing to the new note's pitch only after it has first reached its original pitch destination.
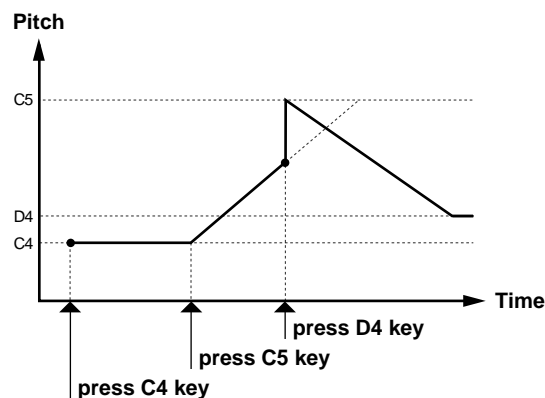
Time (Portamento Time)

Range: 0–127

Sets the time over which one pitch will glide to the next.

Structure (Patch Structure)

These parameters can be set only for Four-Tone Patches.

PATCH Common Structure page ([PATCH] - [F3 (Struct)])
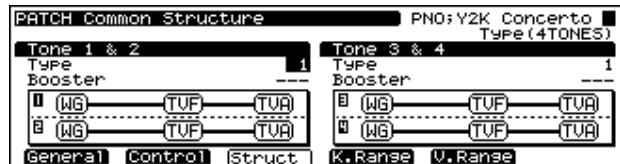
Tone 1&2/Tone 3&4

Determines how Tone 1 and 2, or Tone 3 and 4 are connected.

Type (Structure Type)

Range: 1–10

TYPE 1

TYPE 2

TYPE 3

TYPE 4

TYPE 5

TYPE 6

TYPE 7

TYPE 8

TYPE 9

TYPE 10
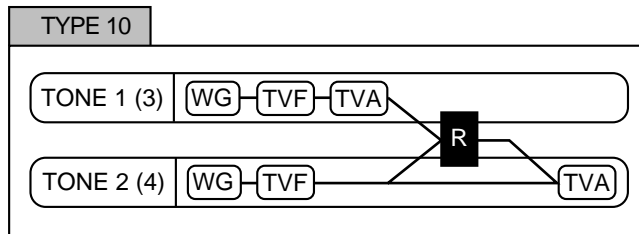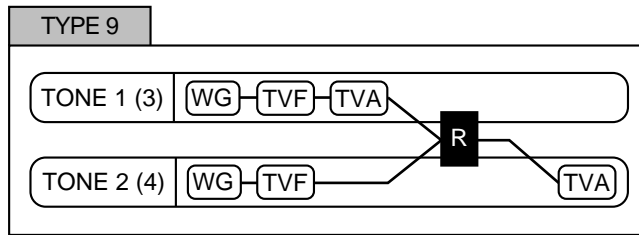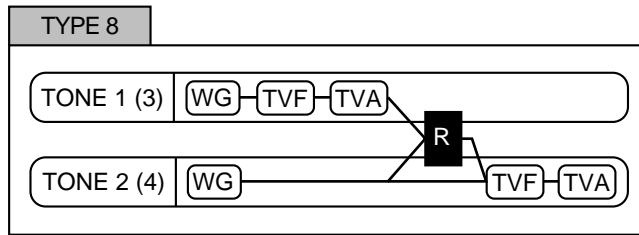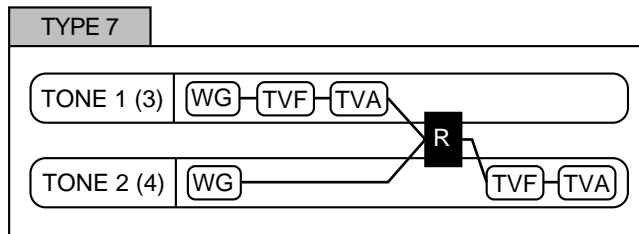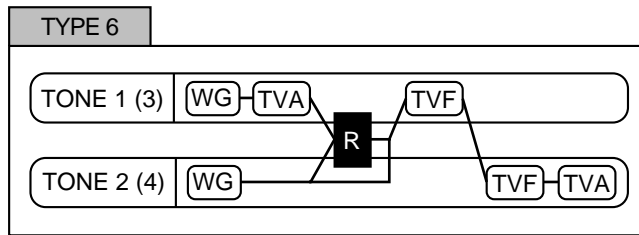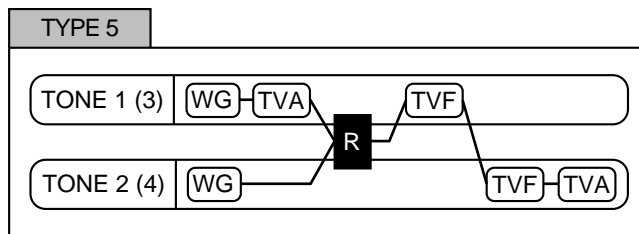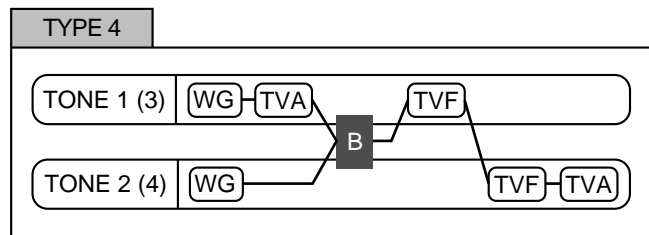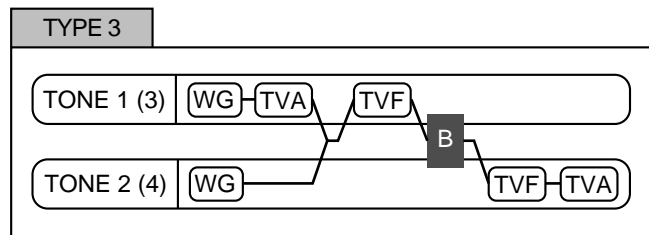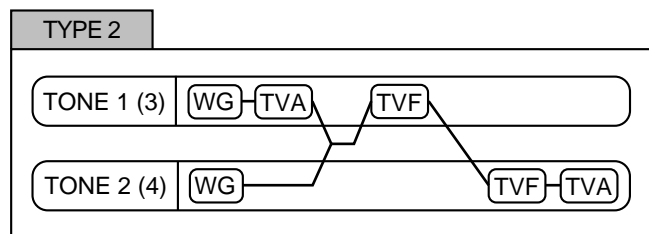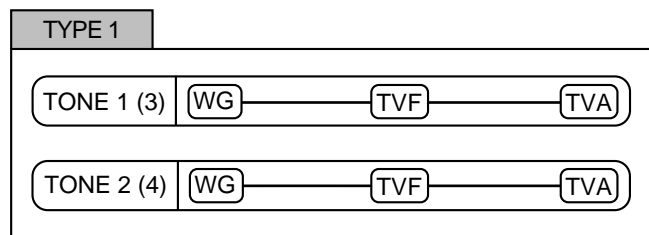
The display will graphically show the selected Structure. The displayed symbols have the following meanings.

W1 (WG1), W2 (WG2), F1 (TVF1), F2 (TVF2), A1 (TVA1), A2 (TVA2), B (booster), R (ring modulator)

* *If you select a Tone while on the STRUCT page, the Tone paired with the selected Tone will also be selected.*

* *If Type 2–10 is selected, turning off one Tone will cause the*

other Tone to be connected in the simple order of WG/TVF/TVA.

Booster (Booster Gain)

Range: 0/+6/+12/+18

If the "Type" parameter has been set to 3 or 4, you can set the Booster strength. The Booster amplifies the incoming signal, causing it to distort. This creates an effect similar to the distortion often used on an electric guitar.

What is a Ring Modulator?

A Ring Modulator mathematically multiplies two Tones, creating a new sound that includes inharmonic overtones that were not present in either of the two original Tones.

Since the difference in pitch between the two Tones changes the overtone structure, an un-pitched "metallic" sound often results. Ring modulation is therefore especially suitable for creating bells and other metallic sounds.
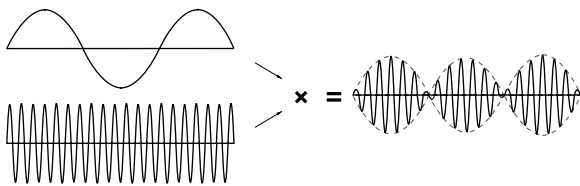
K. Range (Patch Key Range)

These parameters can be set only for Four-Tone Patches.

> * *When using Multi-partial Patches, this setting page doesn't appear.*

PATCH Common TMT Key Range page ([PATCH] - [F4 (K.Range)])

L.F (TMT Keyboard Fade Width Lower)

Range: 0–127

Determines what will happen to the Tone's level when a note that's lower than the Tone's specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the Tone to sound at all when a note below the keyboard range is played, set this parameter to 0.
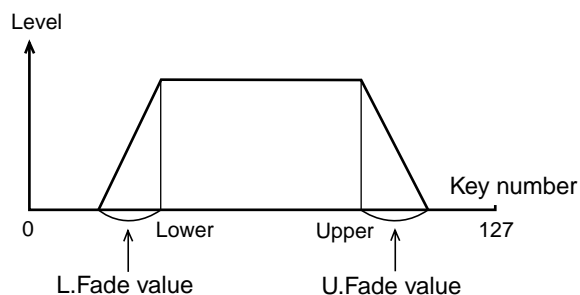
K.L (TMT Keyboard Range Lower)

Range: C -1– UPPER

Specifies the lowest note that will cause the Tone to sound.

K.U (TMT Keyboard Range Upper)

Range: LOWER – G9

Specifies the highest note that will cause the Tone to sound.

> * *It is not possible to set the Lower value higher than the Upper value, or the Upper value below the Lower value. If you attempt to do so, the two values will change simultaneously.*

U.F (TMT Keyboard Fade Width Upper)

Range: 0–127

Determines what will happen to the Tone's level when a note that's higher than the Tone's specified keyboard range is played. Higher settings result in a more gradual change in volume. If you don't want the Tone to sound at all when a note above the keyboard range is played, set this parameter to 0.

*   *When using Multi-partial Patches, this setting page doesn't appear.*

V. Range (Patch Velocity Range)

These parameters can be set only for Four-Tone Patches.

*   *When using Multi-partial Patches, this setting page doesn't appear.*

PATCH Common TMT Vel Range page ([PATCH] - [F5 (V.Range)])

```
PATCH Common TMT Vel Range        PNO;Y2K Concerto ■
Tone(1---)                              Type(4TONES)
TMT Vel Control   TMT Matrix Control
 Switch        ON  Switch                         OFF
L.F V.L V.U U.F   1       ← Velocity Range →      127
  0   1 109   0  [                                    ]
  0 110 127   0                                  ▄▄▄▄
  0   1 127   0
  0   1 127   0
General  Control  Struct  K.Range  V.Range
```
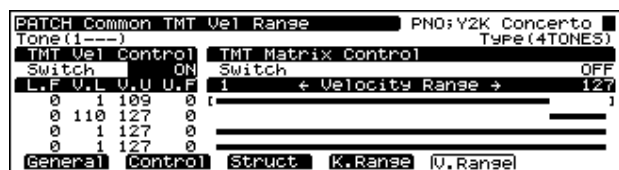
Control (TMT Velocity Control)

With the XV-5080, you can set the expression range (key range) and the way a Tone is played according to the force with which the key is pressed (velocity) for each Tone individually. These settings are collectively referred to as the TMT (Tone Mix Table).

Velocity-Ctrl (TMT Velocity Control Switch)

Range: OFF/ON/RANDOM

Determines whether Velocity messages from a MIDI keyboard or sequencer will be recognized (ON), or ignored (OFF).

When set to RANDOM, the Patch's constituent Tones will sound randomly, regardless of any Velocity messages.

Matrix-Ctrl (TMT Matrix Control Switch)

Range: OFF/ON

This setting determines whether or not the TMT is controlled by the Matrix Control. When Velo (TMT Velocity Control Switch) is set to OFF, turning this parameter on and off is a simple way to switch between playing all Tones or controlling them with the Matrix Control, making this an effective tool for auditioning Tones.

Tone

Displays the Tone number.

L.F (TMT Velocity Fade Width Lower)

Range: 0–127

Determines what will happen to the Tone's level when the Tone is played at a velocity lower than its specified velocity range. Higher settings result in a more gradual change in volume. If you don't want notes played outside the specified velocity range to be heard at all, set this to 0.
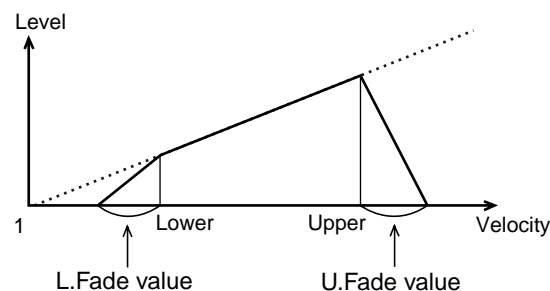
V.L (TMT Velocity Range Lower)

Range: 1–127

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

V.U (TMT Velocity Range Upper)

Range: C -1–G9

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

*   *The Lower value cannot be set to a value greater than Upper value, or vice versa. If you attempt to do this, the two values will change simultaneously.*

U.F (TMT Velocity Fade Width Upper)

Range: 0–127

This determines what will happen to the Tone's level when the Tone is played at a velocity greater than its specified velocity range. Higher settings result in a more gradual change in volume. If you don't want notes played outside the specified velocity range to be heard at all, set this to 0.

Creating Four-Tone Patches

Tips for Creating a Patch

- Select a Patch that is similar to the sound you wish to create.

When you want to create a new sound, it's a good idea to begin with a Patch that is close to the sound that you have in mind. Starting with a Patch that bears no resemblance to the one you want to create is likely to result in much more programming work for you. (Selecting a Patch p. 19)

- Decide which Tones will sound

When creating a Patch, it is important to decide which Tones you are going to use. It is also important to turn off unused Tones to avoid wasting voices, unnecessarily reducing the number of simultaneous notes you can play. (Selecting the Tones That Will Sound p. 126)

- Check the way in which the Tones are combined

Structure Type 1&2 and 3&4 are important parameters that determine how the four Tones are combined. Before you select new Tones, make sure you understand how the currently selected Tones are affecting each other. (p. 131)

- Turn off effects

Since the XV-5080 effects have such a profound impact on its sounds. The effects have a very great influence on the sound, and simply turning off the effects may make the sound quite different. Since you will hear the original sound of the Patch itself when the effects are turned off, the results of your modifications will be easier to hear. Actually, sometimes just changing effects settings can give you the sound you want. (The settings in Patch mode (p. 24))

More Advanced Editing of Tones

You can use a tremendous amount of detail when you edit the Tones in a Patch.

The parameters which can be set for each Tone are assigned to [F2]–[F5] as follows.

[F2 (WG)]

[F1 (WG Prm)] Selecting waveforms, FXM, Tone delay (p. 136)

[F2 (Pitch)] Pitch (p. 138)

[F3 (Pch Env)] Pitch Envelope (p. 138)

[F4 (Sample)] Sample Edit (p. 139)

[F3 (TVF)]

[F1 (TVF Prm)] modifies the brightness using the filter (p. 140)

[F2 (TVF Env)] TVF envelope (p. 142)

[F4 (TVA)]

[F1 (TVA Prm)] Changes the volume and stereo location (p. 143)

[F2 (TVA Env)] TVA envelope (p. 144)

[F5 (LFO&CTL)]

[F1 (LFO1)] Applies vibrato or tremolo (p. 145)

[F2 (LFO2)] Applies vibrato or tremolo (p. 145)

[F3 (Control)] Matrix control) (p. 146)

[F4 (Ctrl Sw)] receives MIDI messages (p. 147)

---

*   * *Do not change the Patch type (Patch Type, p. 127) while using Patch Edit. Since the composition of sounds and parameters used differ for each type, unless you go back and redo these settings, no sound will be produced.**

The following shows the basic setting procedure. For descriptions of each parameter, refer to the reference page given in the above.

1. Select the Patch you're going to use.

2. Press [F2]–[F5], whichever has the parameter you wish to set assigned to it, and select the display group.

3. Then press [F1]–[F4] to access the desired page.

4. Use TONE SELECT [1]–[4] to select the Tone you wish to set.

Its indicator will blink, and the selected Tone's number will appear in the upper right of the display.
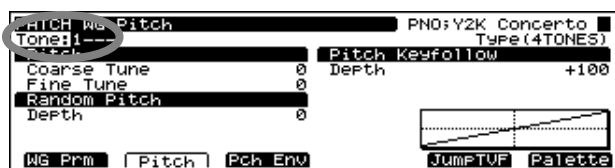
```
PATCH WG Pitch                    PNO;Y2K Concerto ■
Tone:1---                              Type(4TONES)
                        Pitch Keyfollow
Coarse Tune        0   Depth              +100
Fine Tune          0
Random Pitch
Depth              0
WG Prm  [ Pitch ] Pch Env            JumpTVF  Palette
```

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

6. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

  * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the original value of the parameter.*

7. Repeat Steps 2–6 to finish setting up the Patch.

8. Press [EXIT] to return to the PATCH PLAY page.

A "*" symbol will appear at the left of the Patch name, indicating that its settings have been modified.

```
PATCH PLAY              Rx-Ch= 1  MFX CHO REV EQ ■

*PR-A:001  128voicePno

Tone=-2--      Category       Octave
               PNO(AC.Piano  )    0    ⇔
Common    WG     TVF    TVA   LFO&Ctl Effects
```
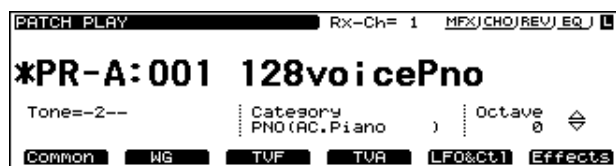
  * *If you turn off the power or select another Patch while the "*" symbol is displayed, your new Patch settings will be lost. If you wish to keep these settings, perform the Save operation. (p. 194)*

Palette Function

When editing a Tone, you can simultaneously view the settings of all four of its Tones by pressing [F6 (Palette)].

1. When modifying a Tone, press [F6 (Palette)] to call up the Tone Palette page.

```
PATCH TVF Palette              PNO;128voicePno ■
Tone:1---                              Type(4TONES)
Parameter        Tone1  Tone2  Tone3  Tone4
Filter Type       LPF    LPF    LPF    LPF
Cutoff Freq        15     58     78     58
Resonance           0      0      0      0
Resonance V-Sens    0      0      0      0
Cutoff Keyfollow    0      0      0      0
▼Cutoff V-Curve   FIXED  FIXED  FIXED  FIXED
Common    WG    [ TVF ]   TVA    LFO   →Tone 1
```
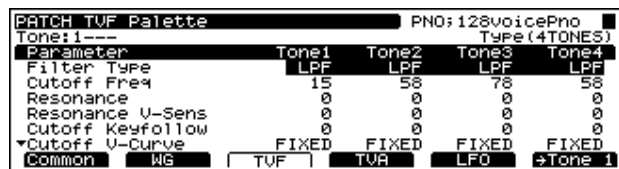
2. Press a TONE SELECT [1]–[4] button, [◄]/[►] to choose the Tone you wish to modify.

The button's indicator of the Tone for editing starts blinking.

To simultaneously modify the same parameter in two or more Tones, hold down one Tone's TONE SELECT [1]–[4] button, press the next desired TONE SELECT [1]–[4] button, and then another if desired, and so on.

3. Press [▲] or [▼] to move the cursor to the parameter to be set.

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

If you have selected two or more Tones, the change you make will raise or lower the parameter's value for all selected Tones by the same amount.

If you wish to set all selected Tones to the same value, move the cursor to the Tone that already has the desired value by pressing [◄]/[►], and while holding down [SHIFT], press the VALUE dial.

  * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the original value of the parameter.*

5. If you wish to edit other parameters, press [▲]/[▼] to select the desired parameter.

6. Repeat Steps 2–5 to adjust the parameter's value.

7. To exit the Palette page, press [F6].

[F6] will display the Tone number to which you will return when pressing the button.

8. Press [EXIT] to return to the PATCH PLAY page.

Tips for Selecting a Waveform

Because the XV-5080 is designed to create completely realistic sounds, the editing process depends heavily on the complex PCM waveforms upon which Tones are based. Therefore, if you try to create a sound that is totally different from the waveform(s) you're working with, the desired result may be difficult or impossible to achieve.

The XV-5080's internal waveforms fall into the following two groups.

One-shot: These waveforms contain sounds that have short decays. A one-shot waveform records the initial rise and fall of its sound. Some of the XV-5080's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The XV-5080 also contains many other one-shot waveforms that are elements of other sounds. These include attack components such as piano-hammer sounds and guitar fret noises.

Looped: These waveforms include sounds with long decays as well as sustained sounds. With looped waveforms, the latter part of the sound plays over and over for as long as the note is held, allowing wave memory to be used more efficiently. The XV-5080's looped waveforms also include components of other sounds, such as piano-string resonant vibrations and the hollow sounds of brass instruments.

The following diagram shows an example of a sound – an electric organ – that combines one-shot and looped waveforms.

Notes for Editing One-Shot Waveforms

You cannot give a one-shot waveform a longer decay — or make it into a sustaining sound — by using an envelope. If you were to program such an envelope, you would be attempting to shape a portion of the sound that simply doesn't exist, and the envelope would have no effect.

Notes for Editing Looped Waveforms

With many acoustic instruments such as piano and sax, extreme timbral changes occur during the first few moments of each note. This initial attack is what defines much of the instrument's character. The XV-5080 provides a variety of waveforms containing realistic acoustic instrument attacks. To obtain the maximum realism when using these waveforms, it is best to leave the filter wide-open during the attack so that all of these important timbral changes are heard. If you use an envelope to modify the attack portion, you may not achieve the result you want. Use enveloping to produce the desired changes in the decay portion of the sound.

If you try to make a waveform's attack brighter by lowering the high-frequency content of its decay using the TVF filter, consider the original timbral character of the waveform. If you're making a part of the sound brighter than the original waveform, you should first generate new upper harmonics not present in the original waveform using the Color and Depth parameters (FXM parameter in the Patch WG Prm

page) before filtering. This will help you achieve the desired result. To make an entire waveform brighter, try applying effects such as an enhancer and equalizer before modifying the TVF parameter.

Modifying the Waveform and Pitch ([F2] (WG))

This set of parameters allows you to select the PCM waveform that serves as the basis for the currently selected Tone, apply effects to the waveform, and control its pitch.

PATCH WG Parameter page ([PATCH] - [F2 (WG)] - [F1 (WG Prm)])
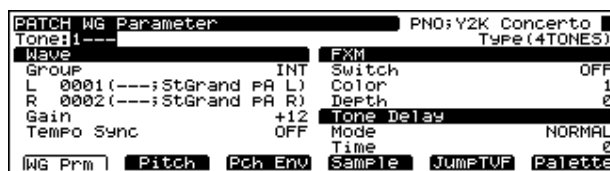
WAVE

Group (Wave Group)

Selects the group for the waveform that is to be the basis of the Tone.

Available Settings:

INT: Waveform stored in the XV-5080's memory.

XP-A–H: Waveform on the wave expansion boards A–H.

 * *It is not possible to select XP-A–F unless a wave expansion board is inserted into the corresponding slot.*

SAMPLE: Samples (Wave data) loaded into the SIMM (memory module) from a sampler library or other source.

L (Wave Number L)

Range: 1–1083

Selects the desired waveform by its number.

The name of the wave will be displayed in square brackets [ ].

R (Wave Number R)

Range: 1–1083

Selects the desired waveform by its number.

The name of the wave will be displayed in square brackets [ ].

 * *When Wave Number R is set to "----," the tone being edited goes to MONO.*

 * *By holding down [SHIFT] and pressing [F6], you can rapidly switch between STEREO and MONO tones.*

Gain (Wave Gain)

Range: -6/0/+6/+12

Specifies the gain (amplitude) of the waveform. The value changes in 6 dB (decibel) steps—an increase of 6 dB doubles the waveform's gain. If you intend to use the Booster to distort the waveform's sound, set this parameter to its maximum value.

Tempo Sync (Wave Tempo Sync)

Range: ON/OFF

Determines whether the waveform is synchronized (ON) or not synchronized (OFF) to the Patch's tempo.

FXM (Frequency Cross Modulation)

FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This can be useful when creating wilder sounds or sound effects.

Switch (Wave FXM Switch)

Range: ON/OFF

Sets whether FXM will be used (ON) or not (OFF).

Color (Wave FXM Color)

Range: 1–4

Specifies how FXM will perform its frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

Depth (Wave FXM Depth)

Range: 0–16

Specifies the depth of the modulation produced by FXM.

Tone Delay

Produces a time delay between the moment a key is pressed (or released) and the moment the Tone actually begins to sound. Since you can adjust the timing of each Tone in a Patch, you can create effects in which pressing a single key produces two or more sounds occurring at different times.

If you do not wish to use Tone Delay, set Mode to NORMAL and Delay Time to 0.

Mode (Tone Delay Mode)

Sets the manner in which the Tone will sound.

Available Settings:

NORMAL: The Tone will sound after the specified Delay Time.

NORMAL

Delay time

Note on   Note off
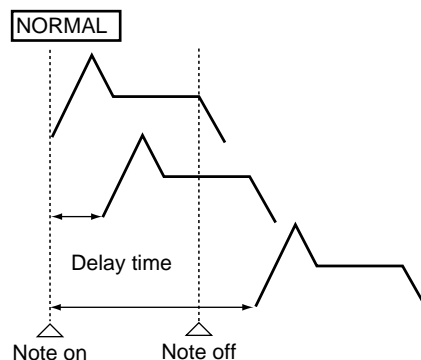
HOLD: The Tone will only sound if the key is held for longer than the specified Delay Time. If the key is released before the Delay Time has elapsed, the Tone will not sound.

HOLD

Delay time   No sound played

Note on   Note off
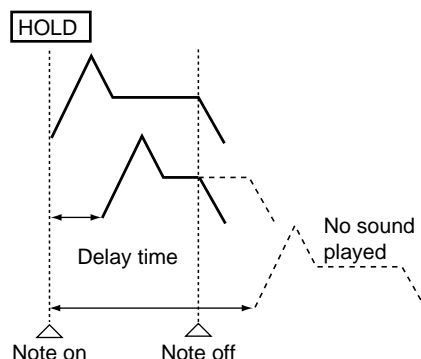
KEY-OFF-NORMAL: The Tone will not sound while the key is being pressed, but will sound — after the specified Delay Time — when the key is released.

KEY-OFF-NORMAL

Delay time

Note on   Note off
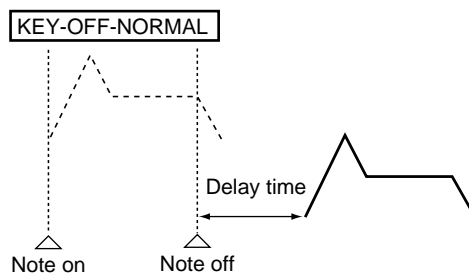
KEY-OFF-DECAY: The Tone will not sound while the key is being pressed, but will sound after the specified Delay Time when the key is released. However, for this setting — unlike KEY-OFF-N — the TVA envelope of the Tone will begin when the key is first pressed. As a result, in most cases, only the decay portion of the sound will be heard.

KEY-OFF-DECAY

Delay time

Note on   Note off
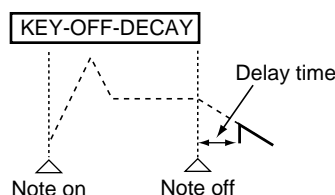
If you have selected a Wave that is a decay-type sound (i.e., a sound that fades away naturally even if the key is not released), selecting KEY-OFF-NORMAL or KEY-OFF-DECAY may result in no sound being heard.

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Time (Tone Delay Time)

Range: 0–127/Note

Specifies the time after which the Tone will sound when using Tone Delay.

When the Type parameter (STRUCT page) has a setting of 2–10, the outputs of Tones 1 (3) and 2 (4) will be combined with Tone 2 (4). Tone 1 (or 3) settings will be ignored.

For more information on the types of notes, refer to the Parameter List (p. 241).

PATCH WG Pitch page ([PATCH] - [F2 (WG)] - [F2 (Pitch)])

Pitch

These parameters set the basic pitch of each Tone.

Coarse Tune (Tone Coarse Tune)

Range: -48– +48

Adjusts the pitch of the Tones simultaneously in semitone steps over a range of +/-4 octaves.

Fine Tune (Tone Fine Tune)

Range: -50– +50

Adjusts the pitch of the Tone in one-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

Random Pitch (Tone Random Pitch)

Depth

Range: 0–1200

Specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want a random pitch change, set this parameter to 0. The setting is adjustable in units of 1 cent (1/100th of a semitone).

Pitch Keyfollow (Wave Pitch Keyfollow)

Range: -200– +200

Sets the amount of pitch change that will occur per octave on the keyboard.

If you want the pitch to change by one octave for each 12 keys on the keyboard — as on normal keyboard instruments — set this parameter to +100. For a two-octave pitch change over the span of 12 keys, set this parameter to +200. Negative (-) values cause the Tone's pitch to go down as you go up the keyboard. If you want the same pitch to sound regardless of what key is pressed, set this parameter to 0.
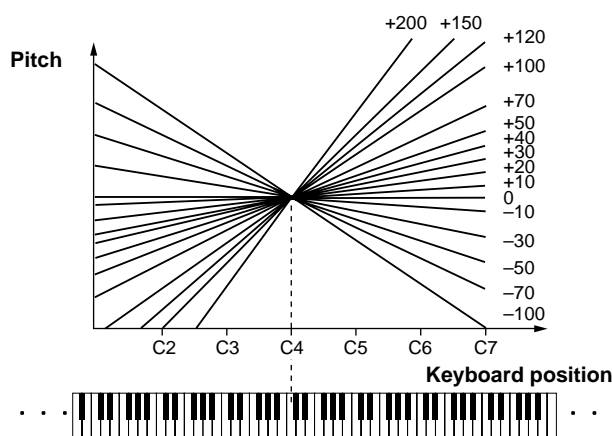
PATCH WG Pitch Envelope page ([PATCH] - [F2 (WG)] - [F3 (Pch Env)])
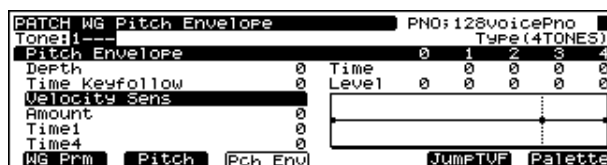
Pitch Envelope

These parameters determine the amount of pitch enveloping – changes to your basic pitch settings that occur over time – the effect of velocity on the pitch envelope, and the basic characteristics of the pitch envelope itself.
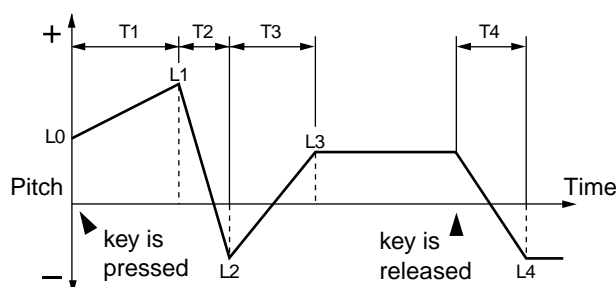
Depth (Pitch Envelope Depth)

Range: -12– +12

Determines the amount of pitch enveloping to be used. Higher values will cause greater change. Negative (-) settings invert the direction of the changes made by the Pitch Envelope.

Time Keyfollow (Pitch Envelope Time Keyfollow)

Range: -100– +100

Use this parameter when you want the keyboard location of notes to affect times T2–T4 of the pitch envelope. Higher settings of this parameter will cause greater time change relative to the envelope time at middle C (C4). Positive (+) settings cause the times to shorten as you play above Middle C. Negative (-) settings will extend time.

Time (Pitch Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the basic pitch settings will change from one pitch envelope level (L1–L4) to the next.

Level (Pitch Envelope Level 0–4)

Range: -63– +63

Each pitch envelope level value determines an amount of change to be applied to the Tone's basic pitch.

Velocity Sens (Pitch Envelope Velocity Sensitivity)

Amount (Pitch Envelope Time Amount Sensitivity)

Range: -63– +63

Adjust this parameter when you want your keyboard playing dynamics (velocity) to affect the amount of pitch enveloping. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Time1 (Pitch Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the pitch envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (Pitch Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the pitch envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

PATCH WG Sample page ([PATCH] - [F2 (WG)]) - [F4 (Sample)])

You can edit the Sample loaded into the SIMM (memory module).

* *These settings cannot be made unless a sample is being used.*
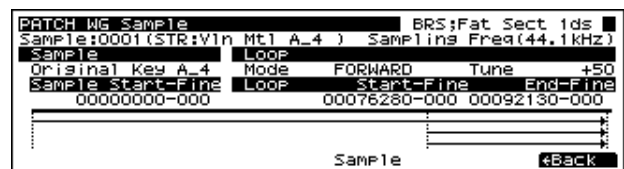
Sample

Sampling Freq. (Sampling Frequency)

Displays the original sampling frequency of the loaded Sample.

Original Key

Set the Note Number for the pitch used for playing the sample when it was sampled.

Loop

Mode (Loop Mode)

Displays the loop mode of the loaded Sample.

Available Settings:

FWD (Forward):

After the sample played back from the Start point to the Loop End point, it will then be repeatedly played back in the forward direction, from the Loop Start point to the Loop End point.

ONE-SHOT:

The sample will be played back only once, from the Start point to the Loop End point.

ALT (Alternate):

When the sample has been played back from the Start point to the Loop End point, playback will repeat to the Loop Start

point, then go back and forth between the Loop Start point and the Loop End point.

REV-ONE (Reverse One-shot)

The sample will be played back only once from the Loop End point to the Start point in the reverse direction.

REV (Reverse):

When the sample has been played back from the Loop End point to the Start point, it will be repeatedly played back in the reverse direction, from the Loop Start point to the Start point.

Tune (Loop Tuning)

Range: -50–50

Determines the fine pitch setting within the loop, in one-cent steps (1/100 of a semitone).

Start-Fine (Start Point - Start Point Fine)

• **Start Point**

Range: 0–

Specifies the point in the sample from which data will be read.

• **Start Point Fine**

Range: 0–255

This is a fine adjustment of the Start Point.

Loop Point Start-Fine (Loop Start Point - Loop Start Point Fine)

• **Loop Start Point**

Range: 0–

Specifies the point in the sample from which the loop will be started.

• **Loop Start Point Fine**

Range: 0–255

This is a fine adjustment of the Loop Start Point.

End-Fine (End Point - End Point Fine)

• **End Point**

Range: 0–

Specifies the point to which the loop will be read.

• **End Point Fine**

Range: 0–255

This is a fine adjustment of the End Point.

Using the Filter to Modify the Brightness ([F3 (TVF)])

The settings for the TVF (Time Variant Filter) allow you to change a Tone's timbral content by altering its brightness or thickness.

PATCH TVF Parameter page ([PATCH] - [F3 (TVF)] - [F1 (TVF Prm)])

TVF

Filter Type (TVF Filter Type)

Selects the filter type. A filter typically reduces, or attenuates, a specific frequency range within a Tone in order to accentuate its other frequencies.

Available Settings:

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency. Since the high frequency range is cut, the sound will become more mellow. This is the most frequently-used type of filter.

BPF: Band Pass Filter. This type of filter leaves only the region in the vicinity of the cutoff frequency, and cuts the rest. It is useful for making distinctive sounds.

HPF: High Pass Filter. This type of filter cuts the portion that lies below the cutoff frequency. It is useful for making percussive or other sounds. that have a distinctive high range.

PKG: Peaking Filter. This emphasizes frequencies around the cutoff frequency by raising their level. You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

LPF2: Low Pass Filter 2. This reduces the volume of all frequencies above the cutoff frequency. This differs from LPF in that you can control the amount of the reduction using the TVF ENVELOPE settings while still maintaining a fixed cutoff frequency.

This can be very effective with acoustic-instrument-based Tones, since nothing is done to weaken the power and energy of the sound.

   * *This disables the Resonance setting.*

LPF3: Low Pass Filter 3. This type of filter cuts the portion that lies above the cutoff frequency. While similar to LPF2, it

filter reduces the frequencies more gently than LPF2.

This can be very effective with acoustic-instrument-based Tones, since nothing is done to weaken the power and energy of the sound.

*   *This disables the Resonance setting.*

Cutoff Freq (TVF Cutoff Frequency)

Range: 0–127

Specifies the frequency (cutoff frequency) at which the filter will begin to affect the frequency characteristics of the waveform.

With LPF/LPF2/LPF3 selected for the Filter Type parameter, lower cutoff frequency settings reduce a Tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter.

When Filter Type is BPF, the cutoff frequency setting determines the range of frequencies within the Tone that will be heard. It is useful for making distinctive sounds.

When Filter Type is HPF, higher settings of the cutoff frequency decrease the level of the Tone's low frequencies, preserving its brighter qualities.

When Filter Type is PKG, the cutoff frequency setting determines the range of frequencies to be emphasized.

Resonance (TVF Resonance)

Range: 0–127

Increases the level of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Resonance Velo (TVF Resonance Velocity)

Sens (TVF Resonance Velocity Sens)

Range: -63– +63

Use this parameter when you want velocity to affect the amount of Resonance. For higher settings, there will be a greater difference between softly and strongly played notes.

Negative (-) values invert the change.

Cutoff Keyfollow (TVF Cutoff Keyfollow)

Range: -200– +200

Use this parameter if you want the cutoff frequency to change according to the key that is pressed. At Middle C (C4), the original Cutoff value is used. Positive (+) settings cause the cutoff frequency to rise for notes higher than Middle C, and negative (-) settings cause the cutoff frequency to fall for notes higher than Middle C. Higher values will cause greater change.

Cutoff Velo (TVF Cutoff Velocity)

Curv (TVF Cutoff Velocity Curve)

Range: FIXED/1–7

Selects one of seven curves that determine how keyboard playing dynamics (velocity) influence the Tone's cutoff frequency. The selected curve is displayed graphically to the below of its value.

When V-Curve is set to "FIXED," the cutoff frequency remains unchanged regardless of how hard or soft the keys are played.

Sens (TVF Cutoff Velocity Sens)

Range: -63– +63

Sets the amount of change produced when the keyboard touch is used to change the cutoff frequency. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

PATCH TVF Envelope page ([PATCH] - [F3 (TVF)]) - [F2 (TVF Env)])
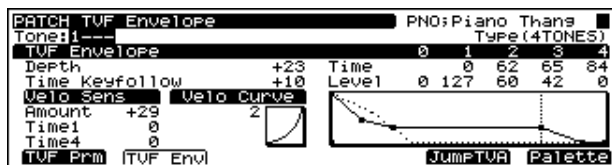
```
PATCH TVF Envelope          PNO:Piano Thang  ■
Tone:1---                        Type(4TONES)
 TVF Envelope            +23  Time  0  1  2  3  4
 Depth                        0  62  65  84
 Time Keyfollow        +10  Level 0 127 60  42  0
 Velo Sens   Velo Curve
 Amount  +29      2
 Time1    0
 Time4    0
 TVF Prm  TVF Env             JumpTVA  Palette
```

TVF Envelope

These parameters determine the amount of filter enveloping – changes to your original cutoff frequency setting that occur over time – the effect of velocity on the TVF envelope, and the basic characteristics of the TVF envelope itself.
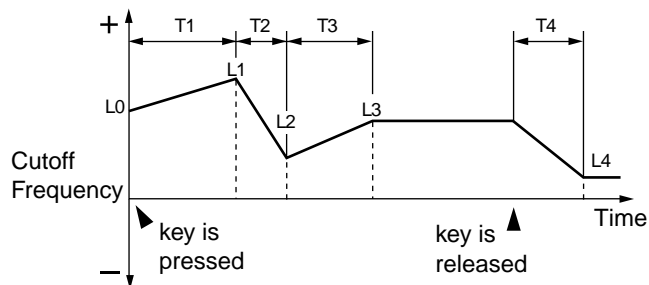
Depth (TVF Envelope Depth)

Range: -63– +63

Adjusts the amount of filter enveloping. Higher values will cause greater change. Negative (-) values invert the effect of the TVF envelope.

Time Keyfollow (TVF Envelope Time Keyfollow)

Range: -100– +100

Use this parameter when you want a note's keyboard position to affect times T2–T4 of the TVF envelope. Higher settings change the times by a greater amount as you move away from Middle C (C4) — at Middle C, the original T1–T4 settings are in effect. Positive (+) settings cause the times to shorten as you play above Middle C. Negative (-) settings will extend time.

Time1–4 (TVF Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the cutoff frequency setting will change from one TVF envelope level (L1–L4) to the next.

Level1–4 (TVF Envelope Level 1–4)

Range: 0–127

Each TVF envelope level value determines an amount of change to be applied to the original cutoff frequency setting.

Velo Sens (TVF Envelope Velocity Sensitivity)

Amount (TVF Envelope Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect the depth of the TVF envelope. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Time1 (TVF Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVF envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVF Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVF envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Velo Curve (TVF Envelope Velocity Curve)

Range: FIXED/1–7

This selects one of seven velocity curves that determine how velocity will affect the depth of the TVF Envelope. The selected curve is displayed graphically to the right of its value.

Changing the Volume and Stereo Location ([F4 (TVA)])

The TVA (Time Variant Amplifier) controls volume changes to the Tone as well as its stereo positioning.

PATCH TVA Parameter page ([PATCH] - [F4 (TVA)] - [F1 (TVA Prm)])

```
PATCH TVA Parameter          PNO:Piano Thang ■
Tone:1---                         Type(4TONES)
TVA               Bias           Pan
  Level      104   Level      0   Pan        L64
  V-Curve      2   Position   C 4 Keyfollow    0
  V-Sens     +19   Direction  LOWER
                                  Random       0
                                  Alternate    0

[TVA Prm] TVA Env            Jump WG  Palette
```
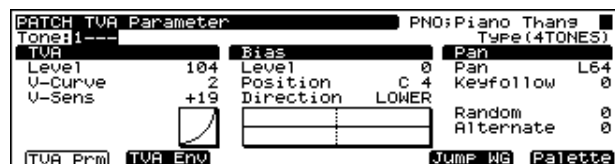
TVA

Level (Tone Level)

Range: 0–127

Sets the volume of the Tone. This setting is useful primarily for adjusting the volume balance between Tones.

The overall volume of the Patch is set by the Level (PATCH Common General page) setting, raising or lowering the Tone level settings of its individual Tones by the selected amount. (p. 127)

V-Curve (TVA Level Velocity Curve)

Range: FIXED/1–7

This setting allows you to select from seven velocity curves that determine how the force with which the keyboard is played is to affect the Tone's volume. The selected curve is displayed to the below of its parameter value.

When set to "FIXED," the Tone's volume will not be affected by the force with which the keyboard is played.

V-Sens (TVA Level Velocity Sens)

Range: -63– +63

Use this setting when you want keyboard touch (velocity) to affect the Tone volume. Set this to a positive value to have the changes in tone volume increase the more forcefully the keys are played; to make the Tone play more softly as you play harder, set this to a negative value.

Bias

Use the Bias parameter when you want the position of notes on a keyboard to affect the TVA level.
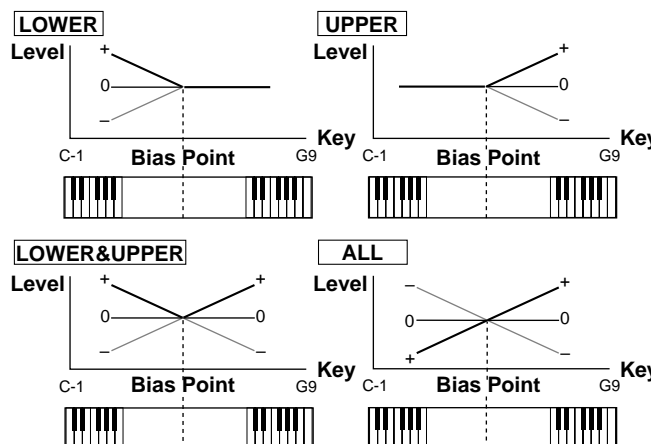
Level (TVA Bias Level)

Range: -100– +100

Adjusts the slope of the volume change that will occur in the selected Bias Direction. Higher values will cause greater change. Negative (-) values invert the change.

Position (TVA Bias Position)

Range: C -1–G9

Selects the MIDI key at which the Tone's volume will begin to change.

Direction (TVA Bias Direction)

This determines whether the volume of notes above or below the Bias point — or both — will change according to their distance from the Bias Point.

Available Settings:

LOWER: Notes below the Bias Point will be affected.

UPPER: Notes above the Bias Point will be affected.

LOWER&UPPER: Notes below and above the Bias Point will be affected.

ALL: The volume of notes across the entire keyboard will be biased according to the Bias Level slope, based on their distance from the Bias Point.

Pan (TVA Pan)

Use these parameters to dynamically alter the Tone's stereo position as set by the TVA Pan.

Pan (Tone Pan)

Range: L64–0–63R

Specifies the stereo position of the Tone. L64 is far left, 0 is center, and 63R is far right.

The overall panning of the entire Patch is set by the Pan parameter (Patch Common General page), and the Pan (Tone Pan) setting is added to this setting. (p. 127)

Chap.4

Keyfollow (Tone Pan Keyfollow)

Range: -100– +100

Use this parameter when you want each note's keyboard position to affect its stereo location. Higher values for this parameter will cause more extreme changes to the T2–T4 settings as you play further away from Middle C (C4) – at Middle C itself, your original T2–T4 settings are in effect. Positive (+) settings cause notes above Middle C to be panned rightward. Negative (-) settings cause them to be panned leftward.

Random (Tone Random Pan Depth)

Range: 0–63

Use this parameter to activate random panning, note-by-note. Higher values will result in a greater width of change.

Alternate (Tone Alternate Pan Depth)

Range: L63–R63

This setting causes panning to be alternated between left and right each time a key is pressed. Higher values will result in a greater width of change. You can select the stereo placement of the first key using this parameter – its opposite will be used for the second note, and so on back and forth. If you want to alternate the pan position of two Tones, set them to the exact opposite L and R settings.

PATCH TVA Envelope page ([PATCH] - [F4 (TVA)] - [F2 (TVA Env)])
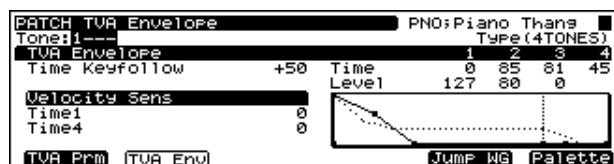
TVA Envelope

These parameters set the characteristics of the TVA envelope, which applies changes over time to the Tone's Tone level setting.
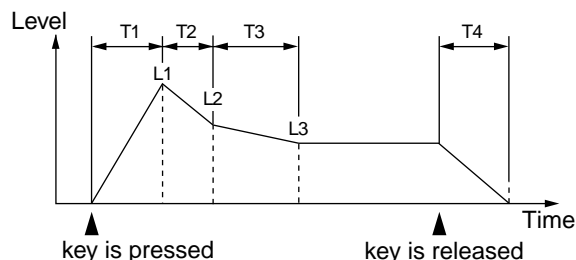
Depth

Time Keyfollow (TVA Envelope Time Keyfollow)

Range: -100– +100

Use this parameter when you want a note's keyboard position to affect times T2–T4 of the TVA envelope. Higher settings change the times by a greater amount as you move away from Middle C (C4) – at Middle C, the original T1–T4 settings are in effect. Positive (+) settings cause the times to be shortened for notes above Middle C. Negative (-) settings will extend time.

Time (TVA Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the Tone level setting will change from one TVA envelope level to the next.

Level (TVA Envelope Level 1–3)

Range: 0–127

Each TVA envelope level value determines an amount of change to be applied to the original Tone level setting.

Velocity Sens (TVA Envelope Velocity Sensitivity)

Time1 (TVA Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVA envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVA Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVA envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Applying Vibrato or Tremolo ([F5 (LFO&CTL)])

The LFO (Low Frequency Oscillator) can alter various Tone settings in a back-and-forth, cyclic manner. Each Tone has two LFOs, and each can apply the desired amount of repetitive change to the Tone's Pitch, TVF cutoff frequency, TVA Level and TVA Pan settings. This can be used as the Matrix Control source (p. 146).

How to Use the LFO

Applying an LFO to the Tone's Pitch settings creates vibrato, applying it to its TVF cutoff frequency creates a wah-wah, and applying it to its TVA Level creates tremolo. When an LFO is applied to the Tone's TVA Pan, the sound moves back and forth, from one side to another, in the stereo field.

Depending on your settings, an LFO can also be used to cyclically exchange two Tones. For example, if you wish to shift back and forth between Tones 1 and 2, select the same LFO settings for both, but set their LFO TVA Depth settings to opposite polarities – set one to a + value, and the other to a - value.

PATCH LFO&Ctrl LFO1/2 page ([PATCH] - [F5 (LFO&CTL)] - [F1 (LFO 1)]/[F2 (LFO 2)])
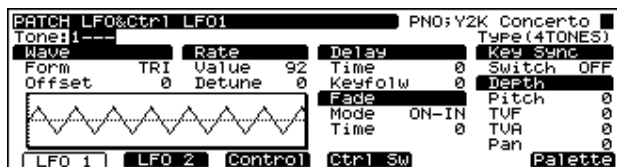
Wave (LFO Wave)

Form (LFO Form)

Available Settings:

Selects the waveform of the LFO.

SIN: sine wave

TRI: triangle wave

SAW-UP: sawtooth wave

SAW-DW: sawtooth wave (negative polarity)

SQR: square wave

RND: random wave

BEND-UP: Once the attack of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

BEND-DW: Once the decay of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

TRP: trapezoidal wave

S&H: sample & hold wave (one time per cycle, LFO value is changed)

CHAOS: chaos wave

* When setting "BEND-UP" or "BEND-DW," set the Key Sync parameter to "ON." If this is "OFF," it will have no effect.

Offset (LFO Offset)

Range: -100– +100

Adjusts the basic value of the LFO waveform upward or downward.

Rate (LFO Rate)

Range: 0–127/Note

Adjusts the basic modulation rate, or speed, of the LFO.

* The Chaos waveform has no wavelength. When the Chaos waveform is selected, the Rate setting has no effect.

* For more information on the types of notes, refer to the Parameter List (p. 241).

Detune (LFO Rate Detune)

Range: 0–127

This setting allows you to adjust the tuning of the LFO waveform.

Delay (LFO Delay)

Time (LFO Delay Time)

Range: 0–127

This sets the time interval between the moment when a key is pressed (or released) and the moment the LFO begins to take effect. (Refer to the diagrams for Fade Mode.)

Keyfolw (LFO Delay Keyfollow)

Range: -100– +100

Adjusts the value for the LFO1/LFO2 Delay Time parameter depending on the key position, relative to the C4 key (center C). To decrease the time that elapses before the LFO effect is applied (the effect is continuous) with each higher key that is pressed in the upper registers, select a positive value; to increase the elapsed time, select a negative value. Higher values will cause greater change. If you do not want the elapsed time before the LFO effect is applied (the effect is continuous) to change according to the key pressed, set this to "0."

Fade (LFO Fade)

Mode (LFO Fade Mode)

Sets how the LFO will be applied.

Available Settings:

ON-IN: The LFO will fade in after the key is pressed.
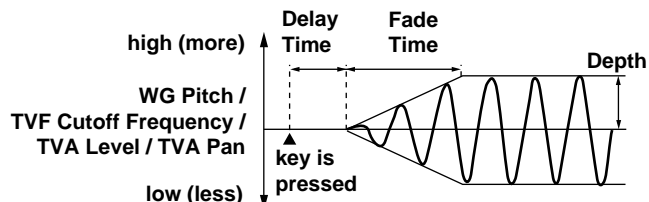
ON-OUT: The LFO will be immediately applied when the key is pressed, and will then fade out.
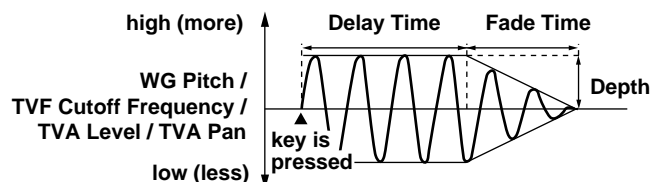
OFF-IN: The LFO will fade in after the key is released.
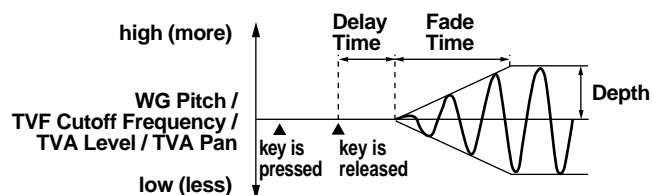
OFF-OUT: The LFO will be immediately applied when the key is pressed, and will begin fading out when the key is released.
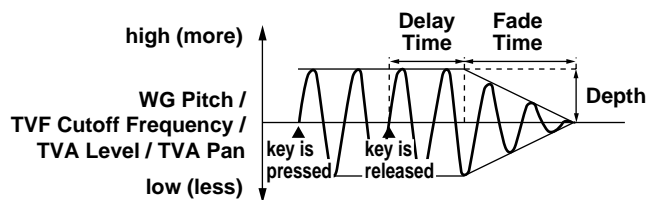
Time (LFO Fade Time)

Range: 0–127

This adjusts the time over which the LFO rises to its full effect or fades away. (Refer to the diagrams for Fade Mode.)

Key Sync (LFO Key Sync)

Range: OFF/ON

Specifies whether you want the LFO cycle to start in sync with the timing of a key press (ON), or not (OFF).

Depth (LFO Depth)

Pitch (Pitch LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the WG Pitch.

TVF (TVF LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVF cutoff frequency.

TVA (TVA LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVA Level.

Pan (Pan LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVA Pan.

PATCH LFO&Ctrl #1/#2 page ([PATCH] - [F5 (LFO&Ctl)] - [F3 (Control)])

Matrix Control 1–4

Source (Matrix Control Source)

Assign one of the following controllers to Matrix Control Source. If you wish to use a controller that will apply to all Patches, or a controller that cannot be directly selected here, select SYS-CTRL1–4, and then select the controller using the System Control Source parameters (System Control Screen).

Available Settings:

OFF: No controller is used.

CC01–CC95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL1: System controller 1

SYS-CTRL2: System controller 2

SYS-CTRL3: System controller 3

SYS-CTRL4: System controller 4

VELOCITY: Velocity

KEYFOLLOW: Keyfollow

TEMPO: Tempo

LFO1

LFO2

PITCH ENV: Pitch envelope

TVF ENV: TVF envelope

TVA ENV: TVA envelope

Destination

Selects the parameters to be controlled. (p. 218)

Sens (Sensitivity)

Range: -63– +63

Adjusts the amount of change that will occur in response to controller changes. Negative (-) values invert the change. Negative (-) settings will invert the phase. For LFO rates, negative (-) values slow down the LFO, and positive (+) values will speed it up.

Tone

Selects the Tone to which the two previous parameter settings are applied. "o" turns signifies that the Tone is selected for control, "_" that it is not selected, and "R" that the change being applied is inverted when applied to this Tone.

PATCH LFO&Ctrl Control Sw page ([PATCH] - [F5 (LFO&CTL)] - [F4 (Ctrl Sw)])

```
PATCH LFO&Ctrl Control Sw        PNO;Piano Thans ■
                                      Type(4TONES)
MIDI Rx Switch      Tone1   Tone2    Tone3    Tone4
Bender Sw            ON       ON       ON       ON
Expression Sw        ON       ON       ON       ON
Hold-1 Sw            ON       ON       ON       ON
Redamper             ON       ON       ON       ON
Pan Mode            CONT     CONT     CONT     CONT
Tone Env Mode      SUSTAIN  SUSTAIN  SUSTAIN  SUSTAIN
 LFO 1     LFO 2    Control  Ctrl Sw
```

MIDI Rx Switch (MIDI Receive Switch)

Bender Sw (Tone Receive Bender)

Range: OFF/ON

If you want the Tone to respond to Pitch Bend messages, turn this parameter on. If not, turn it off.

Expression Sw (Tone Receive Expression)

Range: OFF/ON

If you want the Tone to respond to Expression messages, turn this on. If not, turn it off.

Hold-1 Sw (Tone Receive Hold 1)

Range: OFF/ON

Set this to ON if you wish the tone to respond to Hold1 messages – these messages cause sounds to continue playing when a sustain/damper pedal is pressed. Set this to OFF when you do not want the Tone to respond to Hold1 messages.

Redamper (Tone Redamper Switch)

Range: OFF/ON

If a Hold 1 message is received during the time between a note-off – when you release the key – and the time at which the note actually disappears, any currently sounding notes will be sustained if Redamper is set to ON. To take advantage of this feature, you must also turn on the Tone Receive Hold 1 setting.

Pan Mode (Tone Receive Pan Mode)

Available Settings:

CONT: Pan messages will be responded to immediately, instantly changing the stereo position of the Rhythm Tone.

KEY-ON: The stereo location of the Tone will be changed only when the next note is played. If a Pan message is received while a note is sounding, its stereo location will not change. In this case, the stereo location will change only for the note played later, and the currently sounding note will not move.

Tone Env Mode (Tone Envelope Mode)

Range: NO-SUS/SUSTAIN

When a loop-type waveform is selected, it will normally continue to sound as long as a key is pressed. If you want a note to decay naturally even when the key remains pressed, set this to "NO-SUS."

* *If a one-shot type Wave is selected, it will not sustain even if this parameter is set to "SUSTAIN."*

Creating Multi-Partial Patches

When creating and playing Multi-Partial Patches, you must have a separate device to load samples from a sampler library or other source to the XV-5080.

HINT

First, load a Patch or Performance from the sound library (such as the optional L-CDX Series). Then, if needed, make changes to the parameter settings.

Applying the XV-5080's internal effects is also effective.

* *When editing or playing Multi-Partial Patches, you must have a separate device to load samples from a sampler library or other source to the XV-5080.*

* *Another way is to automatically create a Patch from the Sample, .WAV., or .AIF wave data loaded from the sampler library.*

* *Do not change the Patch type (Patch Type, p. 125) while using Patch Edit. Since the composition of sounds and parameters used differ for each type, unless you go back and redo these settings, no sound will be produced.*

The following shows the basic setting procedure.

1. Select the Patch you're going to use.

2. Press [F2]–[F5], whichever has the parameter you wish to set assigned to it, and select the display group.

3. Then press [F1]–[F4] to access the desired page.

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

* *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the original value of the parameter.*

6. Repeat Steps 2–5 to finish setting up the Patch.

7. Press [EXIT] to return to the PATCH PLAY page.

A "*" symbol will appear at the left of the Patch name, indicating that its settings have been modified.
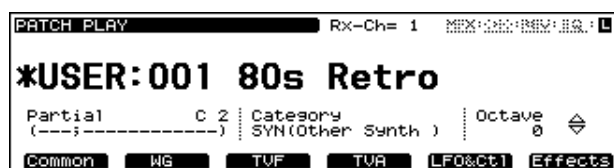
* *If you turn off the power or select another Patch while the "*" symbol is displayed, your new Patch settings will be lost. If*

you wish to preserve them, save the modified Patch using the Write operation. (p. 194)

Assigning Partials

PATCH Common Split page ([PATCH] - [F2 (WG)] - [F3 (Split)])

* *Press [F5] to select the mode when using the split settings. Each time you press this button, the display will change as follows. Press [F6 (Set)] to execute.*

O.W: The specified area will be overwritten.

Move: The split area that is already split will be modified.

1Key: The split will consist only of the specified key.

Note (Note Number)

Range: A0–C8

Sets the key you wish to assign to the Partial.

No. (Partial Number)

Selects the Partial to be assigned.

Partial Name

The Partial name is displayed.

L.P (Lower Key Point)

Range: A0–C8

Specifies the lowest note at which the Partial can be sounded.

U.P (Upper Key Point)

Range: A0–C8

Specifies the highest note at which the Partial can be sounded.

Mute (Mute Group)

Range: OFF/1–31

Allows you to specify certain Partials that will be prevented from playing at the same time. Whichever Partials that you assign to the same Mute Group will not be played at the same time.

* *This works only for the most recently played tones, since last note priority is used for playing the sounds.*

Assign (Assign Type)

Selects the range over which the Split settings are applied.

MULTI: The settings affect all Partials.

SINGLE: The settings affect a single selected Partial.

MIDI (MIDI Switch)

Range: OFF/SELECT/SET

Determines whether or not selections and settings are be made with a MIDI keyboard.

OFF: MIDI messages are not received.

SELECT: This setting allows note numbers to be selected from a MIDI keyboard.

   * *Press [F6 (Set)] to enable the settings.*

SET: This sets the value selected with the MIDI keyboard.

Editing Partials

PATCH WG Parameter page ([PATCH] - [F2 (WG)] - [F1 (WG Prm)])

```
PATCH WG Parameter          BRS;Fat Sect 1ds ▐
Partial:0011(BRS;Tps  4AD     )      Type( MULTI)
 Partial
  Name   [BRS;Tps  4AD       ]
  Coarse Tune          +48
  Fine Tune            -50



[WG Prm ]   SMT    Sample   JumpTVF  ▢Global  ▢MIDISel
```
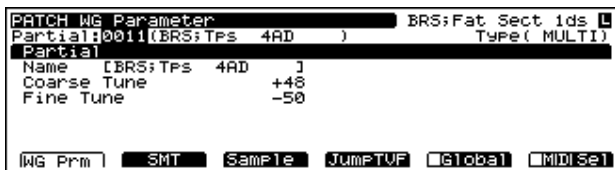
Partial

Name (Partial Name)

You can name a Partial (up to 15 characters).

   * *Names are given to Partials in the same manner as that*
     described for Patch Names (p. 127).

Coarse Tune (Partial Coarse Tune)

Range: -48– +48

Adjusts the pitch of the Partial's sound up or down in semitone steps over a range of +/-4 octaves.

Fine Tune (Partial Fine Tune)

Range: -50– +50

Adjusts the pitch of the Partial in one-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

HINT

Press **[F5 (Global)]** to turn Global on and display the "✔" to the left of the function name; the same settings are applied to all Partials used in the Patch being edited. When Global is set to OFF, then only the currently selected Partial (the Partial appearing on the screen) is edited.

HINT

Press [F6 (MIDISel)], causing "✔" to appear at the left of the function name. The Partials assigned to each key can be selected from the MIDI keyboard or other such controller.

Editing Samples

PATCH WG SMT#1 page ([PATCH] - [F2 (WG)] - [F2 (SMT)])

```
PATCH WG SMT #1                    BRS;Fat Sect 1ds
Partial:0011(BRS;Tps   4AD      )        Type( MULTI)
 SMT No.  Name              Level  Pan   C.T  F.T P.KF
 (1) 2048(BRS;Tpts f A#3-L) 127  RANDOM  +48  +50  +16
 (2) 2048(BRS;Tpts f A#3-R) 127  RANDOM  +48  +50  -16
 (3) ----(---;-----------)    0       0    0    0  OFF
 (4) ----(---;-----------)    0       0    0    0  OFF

 WG Prm     SMT    Sample   JumpTVF   Global   MIDISel
```

SMT (Sample Mix Table)

The SMT number is displayed.

No. (Sample Number)

Specify the number of the Sample to be assigned.

Name (Sample Name)

The name of the assigned sample will be displayed.

Level (Sample Level)

Range: 0–127

Determines the sound volume of each sample.

Pan (Sample Pan)

Range: L32–32R/RANDOM/Key+/Key-

Determines the pan setting for each sample. The stereo position is fixed at the center at 0, the far left at L32, and far right at 32R. The stereo position changes irregularly at random (RANDOM).

The stereo position changes according to the notes played on the keyboard (note number) when it is set to "Key+" or "Key-." When this is set to "Key+," the higher up on the keyboard that you play, the further the sound is shifted to the right; when set to "Key-," the higher the notes played on the keyboard, the further left the sound is shifted.

With "LFO+" and "LFO-," the settings value is set to 0 (center), and the pan shifts between the left and right sides based on the LFO. The depth of the swing in the pan is determined by the Pan TVA Depth setting. With "LFO-," the LFO phase is the reverse of "LFO+."

With "Alt," the pan alternates back and forth between the left and right sides.

C.T (Sample Coarse Tune)

Range: -48– +48

Adjusts the pitch of the sample to be used in semitone steps over a range of +/-4 octaves.

F.T (Sample Fine Tune)

Range: -50– +50

Determines the fine pitch setting of the sample to be used, in one-cent steps (1/100 of a semitone).

P.KF (Pitch Keyfollow)

Range: -16– +16

Sets the relationship between the note number (key position) of the Partial to be used and the pitch that actually sounds.

* *The pitch of the Sample is changed relative to the original key of each Sample.*

16/8: When the note number is increased by one octave, the actual pitch increases by two octaves.

Norm (8/8): When the note number is increased by one octave, the pitch increases by one octave (the normal pitch change in semitone units).

Off (0/8): The pitch doesn't change even though the note number is changed.

-8/8: When the note number is increased by one octave, the actual pitch decreases by one octave.

-16/8: When the note number is increased by one octave, the pitch decreases by two octaves.
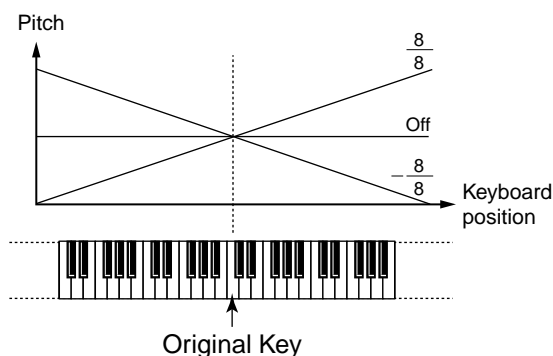
PATCH WG SMT#2 page ([PATCH] - [F2 (WG)] - [F2 (SMT)])

```
PATCH WG SMT #2            BRS;Fat Sect 1ds
Partial:0011(BRS;Tps  4AD     )    Type( MULTI)
 SMT Ctrl Vel Matrix  Sample Name Info
Switch  OFF    OFF    SMT 1(BRS;Tpts f A#3-L)
SMT L.F V.L V.U U.F  1    ← Velocity Range →    127
(1)   0   1 127   0 [                              ]
(2)   0   1 127   0 [.............................]
(3)   0   1 127   0 [.............................]
(4)   0   1 127   0 [.............................]
WG Prm    SMT    Sample  JumpTVF  Global  MIDISel
```
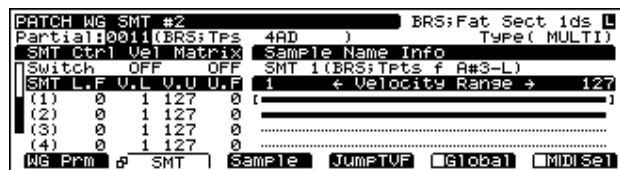
SMT Velocity Control (SMT Velocity Control Switch)

Range: OFF/ON

Determines whether Velocity messages from a MIDI keyboard or sequencer will be recognized (ON), or ignored (OFF).

L.F (SMT Velocity Fade Width Lower)

Range: 0–125

Determines the extent over which the sound level is faded after SMT Velocity Range Upper.

V.L (SMT Velocity Range Lower)

Range: 1–126

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

V.U (SMT Velocity Range Upper)

Range: 2–127

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

* *It is not possible to set the Lower value higher than the Upper value, or the Upper value below the Lower value. If you attempt to do so, the two values will change simultaneously.*

U.F (SMT Velocity Fade Width Upper)

Range: 0–125

Determines the extent over which the sound level is faded after SMT Velocity Range Upper.

PATCH WG Sample page ([PATCH] - [F2 (WG)] - [F3 (Sample)])

```
PATCH WG Sample           BRS;Fat Sect 1ds
Sample:0001[STR;Vln Mtl A_4 ] Sampling Freq( 48.0kHz)
 Sample            Loop
Original Key   A 4  Mode  FORWARD    Tune   +50
 Sample Start-Fine Loop   Start-Fine    End-Fine
  00000000-    0   00076280-    0 00092130-    0
[                                                ]
                    [                           →]
                                    [            →]
                                       ← Back
```
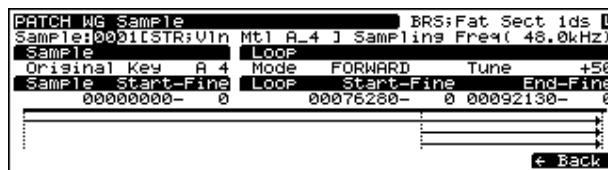
Sample

Sample

Select the sample to be edited.

Sampling Freq. (Sampling Frequency)

Displays the original sampling frequency of the loaded Sample.

Original Key

Displays the original key of the loaded Sample.

Loop

Mode (Loop Mode)

Displays the loop mode of the loaded Sample.

Available Settings:

FORWARD:

After the Sample played back from the Start point to the Loop End point, it will then be repeatedly played back in the forward direction, from the Loop Start point to the Loop End point.

ONE SHOT:

The sample will be played back only once, from the Start point to the Loop End point.
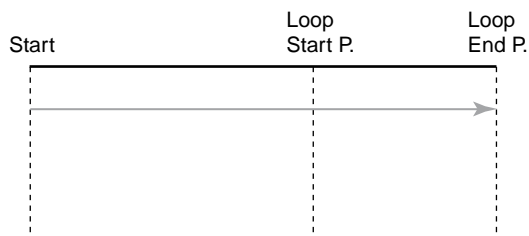
ALT (Alternate):

When the sample has been played back from the Start point to the Loop End point, playback will repeat to the Loop Start point, then go back and forth between the Loop Start point and the Loop End point.

REV ONE (Reverse One-shot)

The sample will be played back only once from the Loop End point to the Start point in the reverse direction.

REVERSE:

When the sample has been played back from the Loop End point to the Start point, it will be repeatedly played back in the reverse direction, from the Loop Start point to the Start point.

Tune (Loop Tuning)

Range: -50–50

Determines the fine pitch setting within the loop, in one-cent steps (1/100 of a semitone).

Start-Fine (Start Point - Start Point Fine)

• Start Point

Range: 0–

Specifies the point in the sample from which data will be read.

• Start Point Fine

Range: 0–255

This is a fine adjustment of the Start Point.

Loop Point Start-Fine (Loop Start Point - Loop Start Point Fine)

• Loop Start Point

Range: 0–

Specifies the point in the sample from which the loop will be started.

• Loop Start Point Fine

Range: 0–255

This is a fine adjustment of the Loop Start Point.

End-Fine (End Point - End Point Fine)

• End Point

Range: 0–

Specifies the point to which the loop will be read.

• End Point Fine

Range: 0–255

This is a fine adjustment of the End Point.

Using the Filter to Modify the Brightness ([F3 (TVF)])

The settings for the TVF (Time Variant Filter) allow you to change a Tone's timbral content by altering its brightness or thickness.

HINT

Press **[F5 (Global)]** to turn Global on and display the "✔" to the left of the function name; the same settings are applied to all Partials used in the Patch being edited. When Global is set to OFF, then only the currently selected Partial (the Partial appearing on the screen) is edited.

HINT

Press **[F6 (MIDISel)]** to display the "✔" to the left of the function name; You can also press a key on a connected MIDI

keyboard to select the pertial.

PATCH TVF Parameter page ([PATCH] - [F3 (TVF)] - [F1 (TVF Prm)])

```
PATCH TVF Parameter          BRS:Fat Sect 1ds
Partial:0011(BRS:Tps  4AD   )      Type( MULTI)
TVF              Cutoff            TVF Velo
Filter Type   LPF  Keyfollow Point  C 4  Curve    1
Cutoff Freq    15  Keyfollow       +62  Sens   +63
Resonance       0

TVF Prm  TVF Env            JumpTVA  Global  MIDISel
```

TVF

Filter Type (TVF Filter Type)

Selects the filter type. A filter typically reduces, or attenuates, a specific frequency range within a Tone in order to accentuate its other frequencies.

Available Settings:

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency. Since the high frequency range is cut, the sound will become more mellow. This is the most frequently-used type of filter.

BPF: Band Pass Filter. This type of filter leaves only the region in the vicinity of the cutoff frequency, and cuts the rest. It is useful for making distinctive sounds.

HPF: High Pass Filter. This type of filter cuts the portion that lies below the cutoff frequency. It is useful for making percussive or other sounds. that have a distinctive high range.

Cutoff Freq (TVF Cutoff Frequency)

Range: 0–127

Specifies the frequency (cutoff frequency) at which the filter will begin to affect the frequency characteristics of the waveform.

Resonance (TVF Resonance)

Range: 0–127

Increases the level of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.
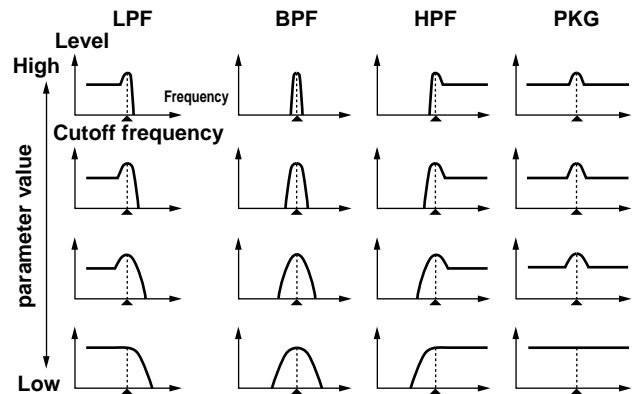
Cutoff

Keyfollow Point

Range: A0–C8

Determines the key used for the center of the key follow effect. The two independent parameters controlled by key follow (cutoff frequency and envelope time) are both affected by the Key Follow Point set here.

Keyfollow (Cutoff Frequency Keyfollow)

Range: -63– +63

Changes the cutoff frequency relative to the key follow point. Positive (+) settings cause the cutoff frequency to rise for notes higher than the key follow point, and negative (-) settings cause the cutoff frequency to fall for notes higher than the key follow point. Higher values will cause greater change.

TVF Velo (TVF Velocity)

Curve (Velocity Curve)

Range: 1–4

Selects the curve which corresponds to the velocity value and the cutoff frequency. The selected curve is displayed graphically to the right of its value. When this is set to "1," velocity has no effect on the cutoff frequency.

Sens (Velocity Curve Sens)

Range: -63– +63

Determines the depth and polarity (positive/negative) of the velocity curve.

A curve effect can be gained by setting the velocity curve to higher values close to 63. Setting this close to 0 results in little change in the cutoff frequency. With negative values, the effect becomes reversed.

PATCH TVF Envelope page ([PATCH] - [F3 (TVF)] - [F2 (TVF Env)])

These parameters determine the amount of filter enveloping – changes to your original cutoff frequency setting that occur over time – the effect of velocity on the TVF envelope, and the basic characteristics of the TVF envelope itself.

```
PATCH TVF Envelope         BRS;Fat Sect 1ds ◼
Partial:0011(BRS;Tps  4AD  )      Type( MULTI)
TVF Envelope                   0   1   2   3   4
  Depth          +23   Time   0  62  65  84
  Time Keyfollow +10   Level  0 127  60  42
Velo Sens   Pitch Depth
  Amount  +29          0
  Time1    0
  Time4    0
TVF Prm  TVF Env        JumpTVA  □Global  □MIDISel
```
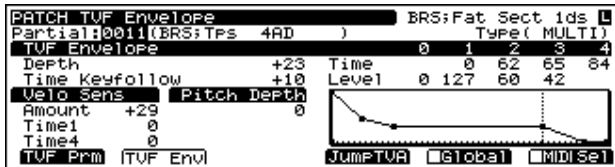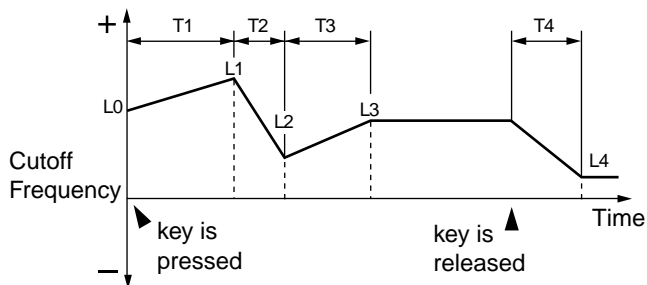
TVF Envelope

Depth (TVF Envelope Depth)

Range: -63– +63

Determines the depth of the envelope when changing the TVF cutoff frequency by the envelope. Higher settings will cause the envelope to produce greater effect. With a setting of zero, there will be no effect. With negative values, the effect is reversed.

Time Keyfollow (Envelope Time Keyfollow)

Range: -63– +63

Changes the envelope time (from Time 1 to 4) relative to the key follow point. Higher settings produce greater change. Positive (+) settings will reduce the time when higher keys are pressed. Negative (-) settings will extend time.

Time (TVF Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the cutoff frequency setting will change from one TVF envelope level (L1–L4) to the next.

Level (TVF Envelope Level 0–3)

Range: 0–127

Each TVF envelope level value determines an amount of change to be applied to the original cutoff frequency setting.The Level during Note On is linked to L4.

Velo Sens

Amount (TVF Envelope Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect the depth of the TVF envelope. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Time1 (TVF Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVF envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVF Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVF envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Pitch Depth (Envelope Pitch Depth)

Range: -63– +63

The TVF envelope can be used to change not only the cutoff frequency, but also the pitch. Set the effect depth using this parameter when modifying the pitch with the TVF envelope. Higher settings will cause the envelope to produce greater effect. With a setting of zero, there will be no effect. With negative values, the effect is reversed.

Making the Volume Change ([F4 (TVA)])

HINT

Press **[F5 (Global)]** to turn Global on and display the "✔" to the left of the function name; the same settings are applied to all Partials used in the Patch being edited. When Global is set to OFF, then only the currently selected Partial (the Partial appearing on the screen) is edited.

HINT

Press **[F6 (MIDISel)]** to display the "✔" to the left of the function name; You can also press a key on a connected MIDI keyboard to select the pertial.

PATCH TVA Parameter page (PATCH] - [F4 (TVA)] - [F1 (TVF Prm)])

```
PATCH TVA Parameter          BRS;Fat Sect 1ds ▣
Partial:0011(---;------------)       Type( MULTI)
 TVA           Level              TVA Velo
 Level    127  Keyfollow Point  C 4  Curve      1
 Pan        0  Keyfollow        +63  Sens     +63


 TVA Prm  TVA Env           Jump WG  ▢Global  ▢MIDISel
```

TVA
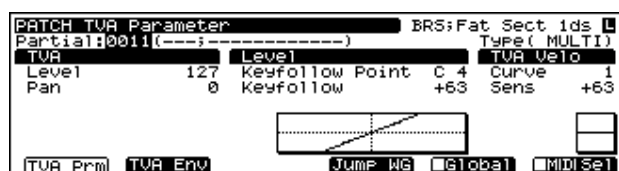
Level (Partial Level)

Range: 0–127

Adjusts the sound volume of the entire Partial.

Pan (Partial Pan)

Range: L64–0–63R

Adjusts the pan setting for the entire Partial.

Level

Keyfollow Point

Range: A0–C8

Determines the key used for the center of the key follow effect. The two independent parameters controlled by key follow (level and envelope time) are both affected by the Key Follow Point set here.

Level (Level Keyfollow)

Range: -63– +63

Changes the volume level relative to the key follow point. Higher settings will produce more change. Positive (+) settings will increase the volume level when higher keys are pressed. Negative (-) settings will decrease the volume level.

TVA Velo (TVA Velocity)

Curve (Velocity Curve)

Range: 0–3

Selects the curve which corresponds to the velocity value and the volume level. When this is set to "1," velocity has no effect on the volume level.

Sens (Velocity Curve Sens)

Range: -63– +63

Determines the depth of the velocity curve.

The curve effect which was set in the Velocity Curve parameter can be gained with a setting of "0" here. The effect is emphasized for positive values, and becomes weaker for negative values. When this is set to -63, velocity has no effect on the volume level.

PATCH TVA Envelope page ([PATCH] - [F4 (TVA)] - [F2 (TVA Env)])
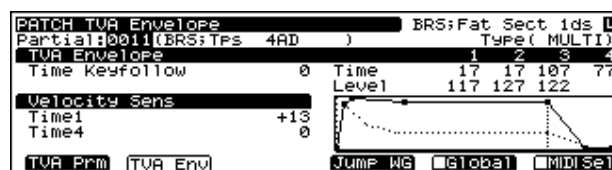
```
PATCH TVA Envelope           BRS;Fat Sect 1ds ▣
Partial:0011(BRS;Tps  4AD    )       Type( MULTI)
 TVA Envelope                    1   2   3   4
 Time Keyfollow         0  Time  17  17 107  77
                           Level 117 127 122
 Velocity Sens
 Time1                 +13
 Time4                   0


 TVA Prm  TVA Env           Jump WG  ▢Global  ▢MIDISel
```

TVA Envelope

These parameters set the characteristics of the TVA envelope, which applies changes over time to the Tone's Tone level setting.

Time Keyfollow (Envelope Time Keyfollow)

Range: -63– +63

Changes the envelope time (from Time 1 to 4) relative to the key follow point. Higher settings produce greater change. Positive (+) settings will reduce the time when higher keys are pressed. Negative (-) settings will extend time.

Time (TVA Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the Tone level setting will change from one TVA envelope level to the next.

Chap.4

Level (TVA Envelope Level 1–3)

Range: 0–127

Each TVA envelope level value determines an amount of change to be applied to the original Tone level setting.

Velocity Sens (TVA Envelope Velocity Sensitivity)

Time1 (TVA Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVA envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVA Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVA envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Applying Vibrato or Tremolo ([F5 (LFO&CTL)])

HINT

Press **[F5 (Global)]** to turn Global on and display the "✔" to the left of the function name; the same settings are applied to all Partials used in the Patch being edited. When Global is set to OFF, then only the currently selected Partial (the Partial appearing on the screen) is edited.

HINT

Press **[F6 (MIDISel)]** to display the "✔" to the left of the function name; You can also press a key on a connected MIDI keyboard to select the pertial.

PATCH LFO&Ctrl LFO page ([PATCH] - [F5 (LFO&Ctl)] - [F1 (LFO)])
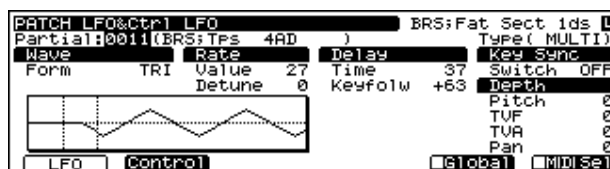
Wave (LFO Wave)

Form (LFO Form)

Available Settings:

Selects the waveform of the LFO.

SIN: sine wave

TRI: triangle wave

SAW-UP: sawtooth wave

SAW-DW: sawtooth wave (negative polarity)

SQR: square wave

RND: random wave

BEND-UP: Once the attack of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

BEND-DW: Once the decay of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

*   *When setting "BEND-UP" or "BEND-DW," set the Key Sync parameter to "ON." If this is "OFF," it will have no effect.*

Rate (LFO Rate)

Range: 0–127

Adjusts the basic modulation rate, or speed, of the LFO.

Detune (LFO Rate Detune)

Range: 0–127

Changes the rate of the LFO.

Delay (LFO Delay)

Time (LFO Delay Time)

Range: 0–127

This sets the time interval between the moment when a key is pressed (or released) and the moment the LFO begins to take effect. (Refer to the diagrams for Fade Mode.)

Keyfolw (LFO Delay Keyfollow)

Range: -63– +63

Adjusts the value for the LFO1 Delay Time parameter depending on the key position, relative to the C4 key (center C). To decrease the time that elapses before the LFO effect is applied (the effect is continuous) with each higher key that is pressed in the upper registers, select a positive value; to increase the elapsed time, select a negative value. Higher values will cause greater change. If you do not want the elapsed time before the LFO effect is applied (the effect is continuous) to change according to the key pressed, set this to "0."

Key Sync

Range: OFF/ON

Specifies whether you want the LFO cycle to start in sync with the timing of a key press (ON), or not (OFF).

Depth (LFO Depth)

Pitch (Pitch LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the WG Pitch.

TVF (TVF LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVF cutoff frequency.

TVA (TVA LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVA Level.

Pan (Pan LFO Depth)

Range: -63– +63

Adjusts how much the LFO will affect the Tone's TVA Pan.

PATCH LFO&Ctrl Control #1/#2 page ([PATCH] - [F5 (LFO&Ctl)] - [F2 (Control)])

Matrix Control 1–4

Source (Matrix Control Source)

Assign one of the following controllers to Matrix Control Source. If you wish to use a controller that will apply to all Patches, or a controller that cannot be directly selected here, select SYS-CTRL1–4, and then select the controller using the System Control Source parameters (System Control screen).

Available Settings:

OFF: No controller is used.

CC01–CC95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL1: System controller 1

SYS-CTRL2: System controller 2

SYS-CTRL3: System controller 3

SYS-CTRL4: System controller 4

VELOCITY: Velocity

KEYFOLLOW: Keyfollow

TEMPO: Tempo

LFO1

LFO2 *1

PITCH ENV: Pitch envelope *1

TVF ENV: TVF envelope

TVA ENV: TVA envelope

   * *Parameters with a "*1" are disabled in Multi-Partial Patches.*

Destination

Selects the parameters to be controlled. (p. 218)

Sens (Sensitivity)

Range: -63– +63

Adjusts the amount of change that will occur in response to controller changes. Negative (-) values invert the change. Negative (-) settings will invert the phase. For LFO rates, negative (-) values slow down the LFO, and positive (+) values will speed it up.

Making Effect Settings

Refer to "Settings in the Patch Mode" (p. 24).

Saving Patches You Create

Refer to "Saving Patches" (p. 194).

Copying the Settings of Another Patch (Patch Tone Copy)

Tone settings from any desired Patch can be copied to the currently selected Patch. Use this feature whenever you want to save time in creating Patches—it's easier to modify an existing one, rather than starting from scratch.

1. Make sure the copy-destination Patch is selected.

2. Press [SYSTEM/UTILITY], and confirm that its indicator has started blinking.

   * *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F2 (Copy)].

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to "Type."

6. Turn the VALUE dial to select "TONE."

7. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

8. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

9. Press [F6 (Copy)] to copy.

MEMO

Patch Name Copy

You can copy the Patch name by setting the value to "NAME" in Step 6 above.

Compare Function

You can use the Compare function during the Patch Tone Copy operation.The Compare function allows you to play the Patch currently occupying the copy source. To play the Patch of the copy source, press [F1 (Compare)] to access the Patch Compare page. A new source Patch can be selected from the Patch Compare page as well – however, it is not possible to select Patches from XP-A–H. After selecting the patch, press [F1] again to return to the previous page.

* *The Compare function cannot be used if a Patch of the temporary area (Temporary Patch) is selected as the copy-source Patch.*

* *Please be aware that when you use the Compare function to play Patches, they may sound slightly different than when played normally.*

Chapter 5 Creating a Performance

How a Performance Is Organized

With Performances, you can combine a total of up to 32 separate Patches and Rhythm Sets to enjoy ensemble performances featuring rich tones. In other words, using Performances allows you to control 32 separate tones with a single XV-5080. A sound module that can simultaneously produce multiple sounds is called a multitimbral sound module.

```
Performance
    ┌─────────────────────────────────── Part 32
    │  ┌──────────────────────────── Part 11
    │  │ ┌──────────────────────── Part 10
    │  │ │   4Tone Patch,
    │  │ │   Multi Percial Patch
    │  │ │   or Rhythm set
    │  │ ┌──────────────────────── Part 9
    │  │ │
    │  │ │
    │  │ ┌──────────────── Part 1
    │  │ │   4Tone Patch,
    │  │ │   Multi Percial Patch
    │  │ │   or Rhythm set
    └──┴─┴────────────────────────
```
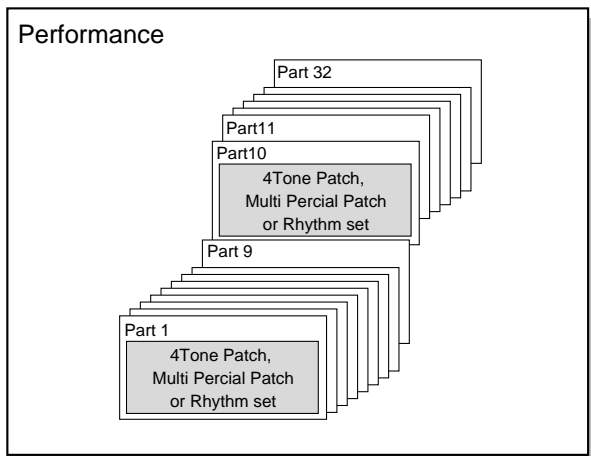
Basic Ways to Use Performances

There are three basic ways to use Performances.

Playing Multiple Patches Together (Layer)

Refer to "QUICK START" (p. 21).

Playing Separate Patches in Different Areas of the Keyboard (Split)

Refer to "QUICK START" (p. 25).

Using the XV-5080 as a Multitimbral Sound Generator

In Performance mode, you can use the XV-5080 as a 32-part multitimbral sound generator. Try selecting some Parts and sounds, and then play the multiple Parts together as a Performance.

The basic steps for doing this include:
- Choosing the Parts to Play (p. 159)
- Selecting a Part's Patch or Rhythm Set (Patch) (p. 162)
- Setting the Part's MIDI reception channels (Part MIDI) (p. 164)
- Setting the MIDI connector that receives MIDI messages for each Part (Part MIDI Receive Switch) (p. 164)

After you have completed setting up your Performance, try playing a sequence from your computer or sequencer using the Performance's sounds.

MEMO

Common tips for creating Performances can be listed as follows.
- A Performance can use up to three Multi-effects. (p. 30)
- You can modify the Patch (Tone) settings of each Part while still in Performance mode. (p. 167)

Choosing the Parts to Play

Turn on each Part you wish to use.

1. Select the Performance you wish to use.

2. Press [RX] to make the indicator light.

3. Use PART SELECT [1/17]–[16/32] to switch each Part on—so its indicator lights—or off, so its indicator is extinguished.

To turn Parts 17–32 on or off, press [1-16/17-32], getting its indicator to light, and then press the desired PART SELECT [1/17]–[16/32] button.

4. Press [RX], getting its indicator light to go out.

   * *This setting is linked to the setting for the Part MIDI Receive Switch parameter (Performance MIDI #1 page; p. 164).*

MEMO

After Step 2 is carried out, the following screen appears.

```
PERFORMANCE Part Rx                    Seq:Template      ■
Part: 1(PNO;128voicePno )                       Rx-Ch= 1
Solo Part  Part      1       5       9      13
    OFF    Receive  ▣ o o o o o o o o o o o o o o o
           Part     17      21      25      29
           Receive  - - - - - - - - - - - - - - - -
Solo                                  All Off  All On
```
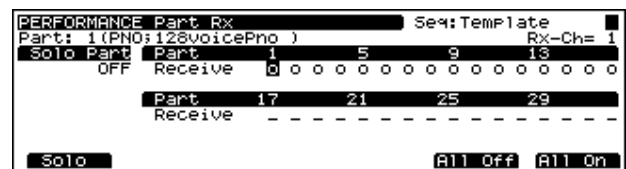
After using [▲], [▼], [◄], or [►] to move the cursor to the desired part, you can press [INC] to switch it on, or [DEC] to switch it off.

You can switch all parts off or on by pressing [F5 (All Off)], or [F6 (All On)].

Additionally, by pressing [F1 (#Solo)] and switching Solo Part to "ON," the XV-5080 enters Solo mode, whereby only the Part at which the cursor is placed plays. When you want to exit Solo mode, press [F1 (#Solo)] once more, switching Solo Part "OFF."

*   *This setting is linked to the setting for the Solo Part Select parameter (Performance Common page; p. 160).*

*   *Even with Solo Part specified here, no sound will be produced if the MIDI Rx (Performance MIDI #1 page) for the selected part is switched to "OFF."*

Establishing Settings for an Entire Performance (COMMON)

The following shows the setting procedure.

1. Select the Performance you wish to use.

2. Press [F1 (Common)].

3. Press [▲]/[▼]/[◀]/[▶] to move the cursor to the parameter you want to set.

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

5. Press [EXIT] to return to the PERFORMANCE PLAY page.

PERFORMANCE Common page ([PERFORM] - [F1 (Common)])

```
PERFORMANCE Common            Seq:Template    ■
Part: 1(PNO:128VoicePno )              Rx-Ch= 1
 Performance Name        Solo Part Select
  Name    [Seq:Template] Number              OFF



Common  K.Range  Part    MIDI    Effects  Info
```
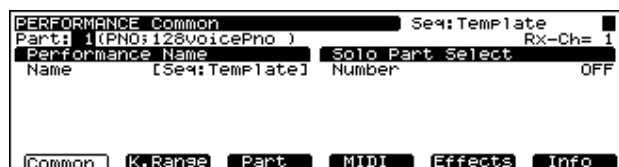
Name (Performance Name)

You can give a Performance a name of up to 12 characters in length.

Use [◀]/[▶] to move the cursor to a character position, and then turn the [VALUE] knob, or press [INC]/[DEC] to select the desired character.

Available characters/symbols:

space, A-Z, a-z, 0-9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←

*   *Pressing the VALUE dial displays the Patch Name window, in which you can use the following functions.*

    [F2 (←Prev)]: Move back one character.
    [F3 (Next→)]: Move forward one character.
    [F4 (Insert)]: Insert a blank space at the cursor position.
    [F5 (Delete)]: Delete the character at the cursor position.
    [F6 (OK)]: Confirm the selected name.

Solo Part Select

Range: OFF/PART 1–32

You can make the setting for listening to only a specific Part.

Settings for Each Part

The parameters that can be set for each Part in the current Performance are assigned to [F2]–[F5] as follows.

> **[F2 (K.Range)]**
> Sets the keyboard range (p. 161).
>
> **[F3 (Part)]**
> Selects the Patch, and sets the volume, pan, pitch, and polyphony (p. 162).
> Edit the sound's attack time, release time, and the way the sound is output (p. 163).
>
> **[F4 (MIDI)]**
> Makes the settings for MIDI (p. 164).
>
> **[F5 (Effect)]**
> Makes the effect settings (p. 30).
>
> **[F6 (Info)]**
> Confirms MIDI information for each Part (p. 166)

The following shows the setting procedure.

1. Select the Performance you wish to use.

2. Press [F2]–[F5], whichever has the parameter you wish to set assigned to it, and select the display group.

In some screens, pressing the same button yet again switches the screen.

3. Press PART SELECT [1/17]–[16/32] to select the Part you want to set.

To select Parts 17–32, press [1-16/17-32], getting its indicator to light, and then press the desired PART SELECT [1/17]–[16/32] button.

*   *By holding down [SHIFT] and pressing [◀], you can have the cursor jump to the number indicating the part in the upper left of the screen. Here, you can switch parts by turning the VALUE dial, or by pressing [INC] or [DEC].*

4. Press [▲]/[▼]/[◀]/[▶] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial or press [INC]/[DEC] to select the desired value.

   * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the original value of the parameter.*

6. Repeat steps 2–5 to complete a Performance.

7. Press [EXIT] to return to the PERFORMANCE PLAY page.

A "*" symbol will appear at the left of the Performance name, indicating that its settings have been modified.

   * *If you turn off the power or select another Performance while the "*" symbol is displayed, your new Performance settings will be lost. If you wish to preserve them, save the modified Performance using the Write operation. (p. 194)*

Comparing the Settings of Each Part as You Make Settings

The values for eight Parts (Parts 1–8, Parts 9–16, Parts 17–24, 25–32) can be displayed together in the same screen.

1. When you are making settings for an individual Part, press [F6 (Palette)] to access the Part Palette page.

   * *[F6 (Palette)] will be displayed only when you have the option of selecting the Part Palette page.*

2. Press PART SELECT [1/17]–[16/32] to select the Part you want to set.

To select Parts 17–32, press [1-16/17-32], getting its indicator to light, and then press the desired PART SELECT [1/17]–[16/32] button.

You can also use [◄]/[►] to select the Part for which to make settings.

MEMO

Each time you press [F1], the Part Palette page will switch between Parts 1–8, Parts 9–16, Parts 17–24, and Parts 25–32.

3. Press [▲] or [▼] to move the cursor to the parameter you wish to set.

Press [▲] while holding down [SHIFT] to move the cursor to the top settings parameter; press [▼] while holding down [SHIFT] to move the cursor to the bottom settings parameter.

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

   * *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the original value of the parameter.*

5. Repeat steps 1–4 to complete settings for the Performance.

6. To exit the Part Palette page, press [F6].

The Part number to which you will return will be displayed in [F6].

Setting the Keyboard Range

PERFORMANCE Key Range page ([PERFORM] - [F2 (K.Range)])

F.L (Part Keyboard Fade Width Lower)

Range: 0–127

Determines what will happen to the Part's level when a note that's lower than its specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the Tone to sound at all when a note below the keyboard range is played, set this parameter to 0.

Chap.5
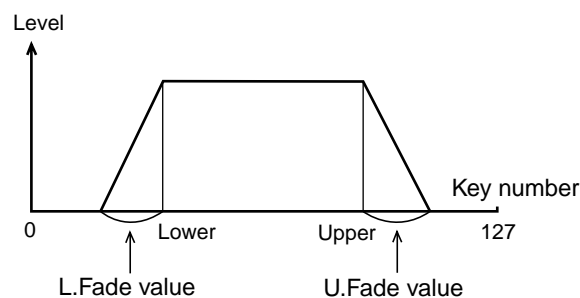
K.L (Part Keyboard Range Lower)

Range: C -1–G9

Specifies the lowest note that will cause the Part to play its sound.

K.U (Part Keyboard Range Upper)

Range: C -1–G9

Specifies the highest note that will cause the Part to play its sound.

The Lower value cannot be set to a value greater than Upper value, or vice versa. If you attempt to do this, the two values will change simultaneously.

U.F (Part Keyboard Fade Width Upper)

Range: 0–127

This determines what will happen to the Part's level when a note that's higher than its specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the Tone to sound at all when a note above the keyboard range is played, set this parameter to 0.

Selecting the Patch, and Setting the Volume, Pan, Pitch, and Polyphony

PERFORMANCE Part #1 page ([PERFORM] - [F3 (Part)])

Patch (Part Patch)

Type (Part Type)

Range: PAT/RHY

Selects the Patch (PAT) or Rhythm Set (RHY) the Part will play.

Group (Part Group)

Available Settings:

Selects the group to which the desired Patch or Rhythm Set belongs.

* *You can also use the Patch Finder feature. (p. 19)*

* *You can also select from the FAVORITE LIST. (p. 207)*

---

* *It is not possible to select XP-A–H unless a wave expansion board is inserted into the corresponding slot. (Quick Start; p. 3)*

* *It is not possible to select CARD unless a SmartMedia card is inserted into the XV-5080 CARD slot.*

Number

Selects the desired Patch or Rhythm Set by its number.

* *You can also use the Patch Finder feature. (p. 19)*

* *You can also select from the FAVORITE LIST. (p. 207)*

Level&Pan (Part Level&Pan)

Part Level

Available Settings:

Sets the volume of the Part. This setting's main purpose is to adjust the volume balance between Parts.

Part Pan

Available Settings:

Specifies the stereo position of the Part's sound. L64 is far left, 0 is center, and 63R is far right.

Tune (Part Tune)

Octave Shift (Part Octave Shift)

Range: -3– +3

Adjusts the pitch of the Part's sound up or down in units of an octave (+/-3 octaves).

Coarse (Part Coarse Tune)

Range: -48– +48

Adjusts the pitch of the Part's sound up or down in semitone steps over a range of +/-4 octaves.

Fine (Part Fine Tune)

Range: -50– +50

Adjusts the pitch of the Part's sound up or down in one-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

Bend Range (Part Pitch Bend Range)

Range: 0–48/PATCH

Sets the amount of pitch change that will occur when you move the Pitch Bend lever. The amount of change when the lever is tilted is set to the same value for both left and right sides.

When set to PATCH, the bend range settings for the assigned Patch will be put in effect.

Voice Reserve (Part Voice Reserve)

This setting specifies the number of voices that will be reserved for specific Parts when more than 128 voices are played simultaneously.

* *It is not possible for the settings of all Parts to total an amount greater than 128. The remaining number of available voices will be displayed to the left of this value (Rest=). You should check this readout as you set the Voice Reserve parameter.*

Calculating the Number of Voices Being Used

The number of notes that the XV-5080 can sound simultaneously depends on the number of Tones in the Patches you are using, and the number of keys being pressed. For example, if you play one note using a Patch that consists of only one Tone, you will use up one voice of polyphony. XV-5080 tones can use two Waves, and when Patches are composed of these tones, this doubles the two sounds. When two keys are pressed, and the Patch for each key pressed uses four tones, each having two Waves, a total of sixteen voices is used.

This number is obtained by figuring **(the number of tones with one Wave + the number of tones with two Waves x 2) x the number of keys pressed**.

The XV-5080 is able to play up to 128 Tones simultaneously. When you are using the XV-5080 multitimbrally, keep this in mind, and adjust your Voice Reserve settings so that each Part is guaranteed at least the minimum number of voices it requires.

Editing the Attack and Release of the Sound and Changing the Way the Sound is Played

PERFORMANCE Part #2 page ([PERFORM] - [F3 (Part)])

Modify (Part Modify)

Cutoff Offset (Part Cutoff Offset)

Range: -64– +63

This simultaneously lowers or raises the individual TVF cutoff frequency values of the Tones in the Patch.

Resonance Offset (Part Resonance Offset)

Range: -64– +63

Sets the relative proportion of change in the individual TVF Resonance values of the Tones in the Patch.

Attack Time Offset (Part Attack Time Offset)

Range: -64– +63

Sets the relative proportion of change in the TVF/TVA Envelope value set for each tone comprising the Patch or Rhythm Set assigned to the part.

* *Patches also contain an Attack Time Offset setting. The final TVF/TVA Envelope attack time value is therefore the sum of the Tone's TVF/TVA ENVELOPE T1 setting, the Patch's Atk time offset, and the Part's Atk time offset. Accordingly, if the tone's T1 parameter is set to 127, there will be no change in the Attack Time Offset, even when this is set to a positive value.*

Chap.5

Release Offset (Part Release Time Offset)

Range: -64– +63

Sets the relative proportion of change in the TVF/TVA Envelope T4 value set for each tone comprising the Patch or Rhythm Set assigned to the part.

> *   *Patches also contain a Release Time Offset setting. The final TVF/TVA Envelope release time value is therefore the sum of the Tone's TVF/TVA Envelope T4 setting, the Patch's Release Time Offset, and the Part's Release Time Offset. Accordingly, if the tone's T4 parameter is set to 127, there will be no change in the Release Time Offset, even when this is set to a positive value.*

Velocity Sens Offset (Part Velocity Sensitivity Offset)

Range: -63– +63

This changes the volume and cutoff frequency for each part according to the velocity with which the keys are played. This simultaneously lowers or raises the individual TVF VELOCITY V-Cutoff and TVA V-Sens values of the Tones in the Patch.

> *   *Patches also contain a Velocity Sens Offset setting. The final, resulting Velocity Sensitivity Offset value is the sum of the part's and the Patch's Velocity Sensitivity Offsets. If the Patch's Velocity Sens Offset is already set to 127, there will be no change produced by setting the Part's Velocity Sens Offset to a positive value.*

Key Mode (Part Key Mode)

Mono/Poly (Part Mono/Poly)

Range: MONO/POLY

Sets how the Patch's notes will be played. The SOLO setting is effective when playing a solo instrument Patch such as sax or flute.

MONO: Only one note will sound at a time.

POLY: Two or more notes can be played simultaneously.

PATCH: This follows the Patch settings assigned to the Part.

Legato Switch (Part Legato Switch)

Range: OFF/ON/PATCH

Turn this parameter on when you want to use the Legato feature and off when you don't. Legato is a function that works only when the Key Assign Mode is MONO. When Legato is ON, pressing one key when another is already pressed causes the currently playing note's pitch to change to that of the newly pressed key while continuing to sound. This can be effective when you wish to simulate performance techniques such as a guitarist's hammering on and pulling off strings.

When a "PATCH" is selected, the settings for the assigned Patch will have effect.

Portamento (Part Portamento)

Switch (Part Portamento Switch)

Range: OFF/ON/PATCH

Specifies whether the portamento effect will be applied (ON) or not (OFF).

When a "PATCH" is selected, the settings for the assigned Patch will have effect.

Time (Part Portamento Time)

Range: 0–127/PATCH

When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.

When a "PATCH" is selected, the settings for the assigned Patch will have effect.

Establishing a Part's MIDI Settings

PERFORMANCE MIDI #1 page ([PERFORM] - [F4 (MIDI)])

Part MIDI

Receive Channel (Part Receive Channel)

Range: 1–16

Sets the MIDI channel to which the Part will respond.

Part MIDI Receive Switch

MIDI Rx (Part MIDI Receive Switch)

Range: OFF/ON

Enables (ON) or disables (OFF) the Part's response to received MIDI messages.

MIDI IN1 (Part MIDI IN 1 Receive Switch)

Range: OFF/ON

Sets whether each Part will receive MIDI messages (ON) or not (OFF) from the MIDI IN 1 connector.

MIDI IN2 (Part MIDI IN 2 Receive Switch)

Range: OFF/ON

Sets whether each Part will receive MIDI messages (ON) or not (OFF) from the MIDI IN 2 connector.

Part Mute

Switch (Part Mute Switch)

Range: OFF/MUTE

Turns muting of each part on (MUTE) or off (OFF).

> * *Although the Part's sound is muted, the Part still receives MIDI messages. Thus, even when the Part's sound is switched on or off during playback a song, the Part continues to keep up with the latest received MIDI data.*

PERFORMANCE MIDI #2 MIDI Filter page ([PERFORM] - [F4 (MIDI)])

```
PERFORMANCE MIDI #2 (MIDI Filter) Seq:Template
Part: 1(PNO:128voicePno )              Rx-Ch= 1
 MIDI Message        Ch1     5     9     13
 Program Change      o o o o o o o o o o o o o o o o
 Bank Select         o o o o o o o o o o o o o o o o
 Pitch Bend          o o o o o o o o o o o o o o o o
 Channel Pressure    o o o o o o o o o o o o o o o o
 Poly Key Pressure   o o o o o o o o o o o o o o o o
 Modulation          o o o o o o o o o o o o o o o o
 Common   K.Range   Part   MIDI    Effects
```

MIDI Message

You can determine whether the MIDI channel (1–16) will receive the following MIDI messages (ON), or not (OFF).

Program Change (Program Change Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Program Change messages (ON) or not (OFF).

Bank Select (Receive Bank Select Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Bank Select messages (ON) or not (OFF).

Pitch Bend (Receive Pitch Bend Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Pitch Bend messages (ON) or not (OFF).

Channel Pressure (Receive Channel Pressure Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Channel Pressure messages (ON) or not (OFF).

Poly Key Pressure (Receive Polyphonic Key Pressure Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Polyphonic Key Pressure messages (ON) or not (OFF).

Modulation (Receive Modulation Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Modulation messages (ON) or not (OFF).

PERFORMANCE MIDI #3 MIDI Filter page ([PERFORM] - [F4 (MIDI)])

```
PERFORMANCE MIDI #3 (MIDI Filter) Seq:Template
Part: 1(PNO:128voicePno )              Rx-Ch= 1
 MIDI Message        Ch1     5     9     13
 Volume              o o o o o o o o o o o o o o o o
 Pan                 o o o o o o o o o o o o o o o o
 Expression          o o o o o o o o o o o o o o o o
 Hold-1              o o o o o o o o o o o o o o o o
 Phase Lock          - - - - - - - - - - - - - - - -
 Velocity Curve      - - - - - - - - - - - - - - - -
 Common   K.Range   Part   MIDI    Effects
```

MIDI Message

You can determine whether the MIDI channel (1–16) will receive the following MIDI messages (ON), or not (OFF).

Volume (Receive Volume Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Volume messages (ON) or not (OFF).

Pan (Receive Pan Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Pan messages (ON) or not (OFF).

Expression (Receive Expression Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Expression messages (ON) or not (OFF).

Hold-1 (Receive Hold 1 Switch)

Range: OFF/ON

Sets whether the MIDI channel will receive MIDI Hold 1 messages (ON) or not (OFF).

Phase Lock

Range: OFF/ON

This setting activates (ON) or de-activates (OFF) synchronization of the timing of Parts that share a common MIDI channel.

> *   *When Part sounds are layered on top of each other as a result of sharing a MIDI channel, there may be a discrepancy in their timing. The Phase Lock feature can synchronize the sounds so that they start precisely at the same time. However, since this delays the sounds slightly to line them up, turn this feature off when it is not needed.*

Velocity Curve

Range: OFF/1/2/3/4

For each Part, you can select from among four velocity curves to find the one that best matches the touch of the MIDI keyboard connected to the XV-5080. Set this to "OFF" if you are using the MIDI keyboard's own velocity curve.

Confirming MIDI Information for Each MIDI Channel

PERFORMANCE Part Information page ([PERFORM] - [F6 (Info)])

In this display you can check the receive status of various types of MIDI message for each MIDI channel. This is a convenient way to check that the sound generator is responding correctly to messages from the keyboard or external MIDI controllers.

The Part Info screen is split into three menus. Press [F6 (Menu)] to switch the menus.

Menu 1
- [F1] Mod (Modulation Information)
- [F2] Breath (Breath Information)
- [F3] Foot (Foot Information)
- [F4] Vol (Volume Information)
- [F5] Pan (Pan Information)

Menu 2
- [F1] Exp (Expression Information)
- [F2] Hold (Hold 1 Information)
- [F3] Bend (Pitch Bend Information)
- [F4] Aft (Aftertouch Information)
- [F5] Voices (Voice Information)

Menu 3
- [F1] Sys1 (System Control 1 Information)
- [F2] Sys2 (System Control 2 Information)
- [F3] Sys3 (System Control 2 Information)
- [F4] Sys4 (System Control 2 Information)

Making Effect Settings

Refer to "Settings in the Performance Mode" (p. 30).

Saving Performances You Create

Refer to "Saving Performances" (p. 194).

Copying the Settings of Another Part (Performance Part Copy)

1. Make sure that the copy-destination Performance is selected.

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

   > *   *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F2 (Copy)].

5. Press [▲]/[▼]/[◀]/[▶] to move the cursor to "Type."

6. Turn the VALUE dial to select "PART."

7. Press [▲]/[▼]/[◀]/[▶] to move the cursor to the parameter you want to set.

8. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

9. Press [F6 (Copy)] to initiate the copy procedure.

MEMO

Performance Name Copy

You can copy the Patch name by setting the value to "NAME" in Step 6 above.

Editing a Patch or Rhythm Set in the Performance Mode

While creating a Performance, you can call up the Patches and Rhythm Sets assigned to each part and change their settings.

1. Make sure that the PERFORM PLAY page is displayed.

2. Select the Part to which the Patch/Rhythm Set you wish to modify is assigned.

3. While holding down [SHIFT], press [PERFORM].

4. Press [PATCH] if you wish to edit a Patch, or [RHYTHM] to edit a Rhythm Set, lighting the respective indicator.

The Play page for the Patch/Rhythm Set assigned to the Part will appear.

5. These are changed using the same procedure used in regular editing of Patches and Rhythm Sets. (Creating a Patch; p. 125, Creating a Rhythm Set; p. 168)

6. When you finish making settings, press [EXIT] to return to the PLAY page.

A "*" symbol will appear at the left of the bank to indicate that the settings have been modified.

* *If you want to keep the changes made in the settings, save them here. (p. 194)*

7. Press [PERFORM] to return to the PERFORM PLAY page.

* *If you do not save the Patch or Rhythm Set, then even if you save a Performance, changes in the Patch or Rhythm Set settings are not saved. If you want to keep settings for the Patch or Rhythm Set, be sure to save the changed settings after carrying out Step 6.*

Palette Function

When editing a Part, you can simultaneously view the settings of all eight of its Parts by pressing [PALETTE].

1. When editing a Part, press [PALETTE] to make its indicator light.

2. Press a PART SELECT [1/9]–[8/16] button, [◀]/[▶] to choose the Tone you wish to modify.

Chap.5

Chapter 6 Creating Rhythm Sets

How Percussion Instruments Are Organized

Rhythm sets are groups of a number of different percussion instrument sounds. An instrument consists of the following four elements.
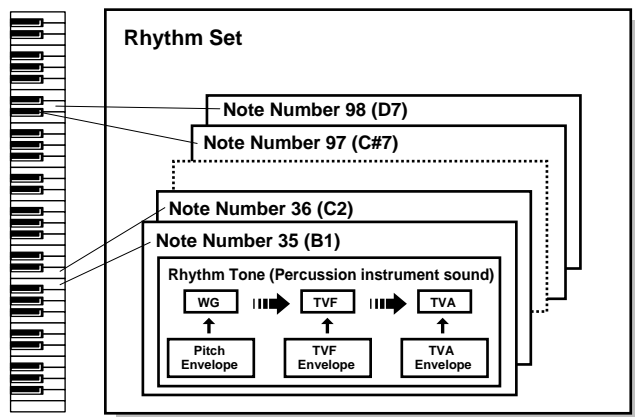
WG (Wave Generator)

Specifies the PCM waveform (wave) that is the basis of the sound, and determines how the pitch of the sound will change.

The XV-5080 has 1083 different waveforms. (See Waveform List p. 277.) Four waveforms can be assigned to each Rhythm Tone.

All Rhythm Tones built into the XV-5080 consist of combinations of Tones which are created based on these waveforms.

TVF (Time Variant Filter)

Specifies how the frequency components of the Tone will change.

TVA (Time Variant Amplifier)

Sets how the Rhythm Tone's volume and stereo positioning will change.

Envelope

An envelope applies changes to the Rhythm Tone over time. There are separate envelopes for Pitch, TVF (filter), and TVA (volume). For example, you would use the TVA Envelope to modify the way in which the Tone attacks and decays.

Using a MIDI Keyboard to Select a Percussion Instrument for Editing

When setting up Individual Rhythm Tones, you can set whether you'll be able to select percussion instruments for editing only by operating the XV-5080's front-panel controls or also by pressing keys on a connected MIDI keyboard.

1. Press [SYSTEM/UTILITY], getting the indicator to light.

  * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F1 (General)] several times to call up the SYSTEM General #1 page.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to "Rhythm Edit Key."

4. Turn the VALUE dial or by press [INC]/[DEC], to select the desired value.

PANEL: Percussion instrument sounds can be selected only by using the XV-5080's TONE SELECT [1]–[4] buttons.

PNL&MIDI: Percussion instrument sounds can be selected using the XV-5080's [E]–[H] buttons and by pressing a key on a connected MIDI keyboard.

  * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the RHYTHM PLAY page.

MEMO

If you'd like to select percussion instruments using the XV-5080's [E]–[H] buttons while playing the sounds on a MIDI keyboard, select "PANEL."

Settings Common to an Entire Rhythm Set

Setting Procedure:

1. Select the Rhythm Set you wish to use.

2. Press [F1 (Common)].

3. Use [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

4. Turn the VALUE dial or by press [INC]/[DEC], to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the RHYTHM PLAY page.

A "*" symbol will appear at the left of the Rhythm Set name, indicating that the settings have been modified.

```
RHYTHM PLAY            Rx-Ch= 1    MFX]CHO]REV] EQ ] L
*PR-A:001 PopDrumSet 1
Rhythm Tone        | Category
C 2(Hybrid Kick >  | DRM(Drums        >
[Common] Key WG  Key TVF  Key TVA  Key Ctl  Effects
```

   * *If you turn off the power or select another Rhythm Set while the "*" symbol is displayed, your new Rhythm Set settings will be lost. If you wish to keep these settings, perform the Save operation. (p. 194)*

RHYTHM Common page ([RHYTHM] - [F1 (Common)])

```
RHYTHM Common              DRM;PopDrumSet 1 L
                                   WMT(1---)
Common               Tempo
Name      [PopDrumSet 1]  Clock Source     RHYTHM
Level            127      Tempo             120
Output Assign    TONE    One Shot Mode
                          Switch            OFF
[Common]  Key WG  Key TVF  Key TVA  Key Ctl  Effects
```
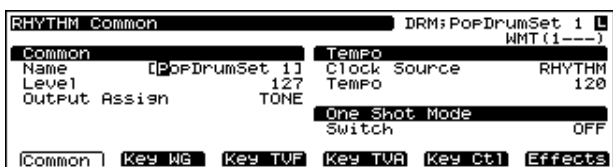
Common

Name (Rhythm Name)

You can name a Rhythm Set using up to 12 characters.

Press [◄] or [►] to move the cursor, and then create the name by turning the VALUE dial or pressing the [INC] or [DEC] buttons to select the desired characters.

Available characters/symbols:

space, A-Z, a-z, 0-9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←

   * *Pressing the VALUE dial displays the Patch Name window, in which you can use the following functions.*

[F2 (←Prev)]: Move back one character.

[F3 (Next→)]: Move forward one character.

[F4 (Insert)]: Insert a blank space at the cursor position.

[F5 (Delete)]: Delete the character at the cursor position.

[F6 (OK)]: Confirm the selected name.

Level (Rhythm Level)

Range: 0–127

Sets the volume of the Rhythm Set.

   * *You can specify the level for each using the Tone Level parameter (p. 177).*

Output Assign (Rhythm Output Assign)

Specifies the output destination of the entire Rhythm Set.

Available Settings:

MFX: The Tone is sent into the Multi-effects.

OUTPUT A–D: The Tone is sent to the selected pair of OUTPUT A–D jacks.

INDIV 1–8: The Tone is sent to the selected INDIVIDUAL 1–8 jack.

TONE: Outputs according to the settings for each Rhythm Tone.

Tempo

Clock Source (Rhythm Clock Source)

The M-FX changes and phrase loop (break beats) can be synchronized to a clock, or tempo. The Clock Source setting selects the timing reference to be used by the Rhythm Set.

Available Settings:

RHYTHM: The Rhythm Set Tempo will be used.

SYSTEM: The global System Tempo or clock messages received from an external sequencer will be used.

Tempo (Rhythm Tempo)

Range: 20–250

When Clock Source (Rhythm Clock Source) is set to "RHYTHM," this setting value is effective.

   * *Clock messages for the Rhythm Tempo are not transmitted from the MIDI OUT connector.*

One Shot Mode

Switch (One Shot Mode Switch)

Range: OFF/ON

This causes all the samples assigned to a selected Rhythm Tone in Loop mode (p. 175) played all together (One Shot).

   * *This function cannot be used with internal waves, and waves on Wave Expansion Boards.*

   * *Loop mode settings cannot be changed for individual samples.*

Setting up Individual Rhythm Tones

The parameters that can be set for each Rhythm Tone of the Rhythm Set are assigned to [F2]–[F5] as follows.

[F2 (Key WG)]

[F1 (WG Prm)] Selecting waveforms, FXM, Pan, or Tuning (p. 171)

[F2 (Pitch)] Pitch (p. 173)

[F3 (Pch Env)] Pitch Envelope (p. 173)

[F4 (V.Range)] WMT Velocity Range (p. 174)

[F5 (Sample)] Sample Edit (p. 174)

[F3 (Key TVF)]

[F1 (TVF Prm)] modifies the brightness using the filter (p. 175)

[F2 (TVF Env)] TVF envelope (p. 177)

[F4 (Key TVA)]

[F1 (TVA Prm)] Changes the volume (p. 177)

[F2 (TVA Env)] TVA envelope (p. 178)

[F5 (Key Ctl)]

Other Settings (p. 179)

Setting Procedure:

1. Select the Rhythm Set you wish to set.

2. Press [F2]–[F5], whichever has the parameter you wish to set assigned to it, and select the display group.

With some display groups, you then press [F1]–[F4] to access the desired page.

3. Press Tone Select [1]–[4] to select the percussion instrument sound you wish to edit, according to the key that plays it.

TONE SELECT [1]: Selects the key one octave below the currently selected key.

TONE SELECT [2]: Selects the key a semitone below the currently selected key.

TONE SELECT [3]: Selects the key a semitone above the currently selected key.

TONE SELECT [4]: Selects the key one octave above the currently selected key.

* *You can also press a key on a connected MIDI keyboard to select the desired percussion instrument sound (key). (p. 168)*

* *By holding down [SHIFT] and pressing [◀], you can have*

---

the cursor jump to the number indicating the part in the upper left of the screen. Here, you can switch parts by turning the VALUE dial, or by pressing [INC] or [DEC].

4. Press [▲]/[▼]/[◀]/[▶] to move the cursor to the parameter you want to set.

5. Either turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

* *If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the value the parameter originally had.*

6. Repeat steps 2–5 to complete a Rhythm Set.

7. Press [EXIT] to return to the RHYTHM PLAY page.

A "*" symbol will appear at the left of the Rhythm Set name, indicating that its settings have been modified.

* *If you turn off the power or select another Rhythm Set while the "*" symbol is displayed, your new Rhythm Set settings will be lost. If you wish to keep these settings, perform the Save operation. (p. 194)*

Tips for Selecting a Waveform

Because the XV-5080 is designed to create completely realistic sounds, the editing process depends heavily on the complex PCM waveforms upon which Tones are based. Therefore, if you try to create a sound that is totally different from the waveform(s) you're working with, the desired result may be difficult or impossible to achieve.

The XV-5080's internal waveforms fall into the following two groups.

One-shot: These waveforms contain sounds that have short decays. A one-shot waveform records the initial rise and fall of its sound. Some of the XV-5080's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The XV-5080 also contains many other one-shot waveforms that are elements of other sounds. These include attack components such as piano-hammer sounds and guitar fret noises.

Looped: These waveforms include sounds with long decays as well as sustained sounds. With looped waveforms, the latter part of the sound plays over and over for as long as the note is held, allowing wave memory to be used more efficiently. The XV-5080's looped waveforms also include components of other sounds, such as piano-string resonant

vibrations and the hollow sounds of brass instruments.

The following diagram shows an example of a sound — an electric organ — that combines one-shot and looped waveforms.

TVA ENV for looped Organ waveform (sustain portion)   TVA ENV for one-shot Key-click waveform (attack portion)   Resulting TVA ENV change

Key-off   Key-off

Notes for Editing One-Shot Waveforms

You cannot give a one-shot waveform a longer decay — or make it into a sustaining sound — by using an envelope. If you were to program such an envelope, you would be attempting to shape a portion of the sound that simply doesn't exist, and the envelope would have no effect.

Notes for Editing Looped Waveforms

With many acoustic instruments such as piano and sax, extreme timbral changes occur during the first few moments of each note. This initial attack is what defines much of the instrument's character. The XV-5080 provides a variety of waveforms containing realistic acoustic instrument attacks. To obtain the maximum realism when using these waveforms, it is best to leave the filter wide-open during the attack so that all of these important timbral changes are heard. If you use an envelope to modify the attack portion, you may not achieve the result you want. Use enveloping to produce the desired changes in the decay portion of the sound.

Tone change stored with the wave   Looped Portion

Envelope for the TVF filter

Resulting tone change

If you try to make a waveform's attack brighter by lowering the high-frequency content of its decay using the TVF filter, consider the original timbral character of the waveform. If you're making a part of the sound brighter than the original waveform, you should first generate new upper harmonics not present in the original waveform using the Color and

Depth parameters (the FXM parameter in the RHYTHM WG WgPrm page) before filtering. This will help you achieve the desired result. To make an entire waveform brighter, try applying effects such as an enhancer and equalizer before modifying the TVF parameter.

Modifying the Waveform, Pan and Pitch ([F2 (Key WG)])

RHYTHM WG Parameter page ([RHYTHM] - [F2 (WG)] - [F1 (WG Prm)])

```
RHYTHM WG Parameter            DRM:PopDrumSet 1 ■
Key:C 2(Hybrid Kick ) WMT:1          WMT(1---)
 Rhythm Tone            Gain & Level   Tune
 Name       [Hybrid Kick ]  Gain   +12   Coarse   0
 Wave                    Level  127   Fine     0
 Group             INT   Pan          FXM
 No 0734(---;Hybrid Kick )  Value    0   Switch OFF
 ----(---;-------------)  Random  OFF   Color    1
 Tempo Sync        OFF   Alternate OFF  Depth    0
 WG Prm ] Pitch   Pch Env  V.Range Sample  Palette
```
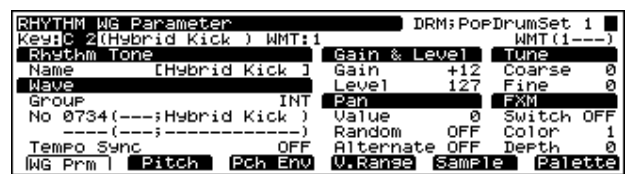
Rhythm Tone

Name (Tone Name)

You can name a Rhythm Tone using up to 12 characters.

Press [◄] or [►] to move the cursor, and then create the name by turning the VALUE dial or pressing the [INC] or [DEC] buttons to select the desired characters.

Available characters/symbols:

space, A-Z, a-z, 0-9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←

* *Pressing the VALUE dial displays the Patch Name window, in which you can use the following functions.*

  [F2 (←Prev)]: Move back one character.
  [F3 (Next→)]: Move forward one character.
  [F4 (Insert)]: Insert a blank space at the cursor position.
  [F5 (Delete)]: Delete the character at the cursor position.
  [F6 (OK)]: Confirm the selected name.

MEMO

With the XV-5080, up to four stereo Waves can be assigned to a single Rhythm Tone. You can select the way tones sound according to the force with which the keys are played, thus allowing you to create Rhythm Tones featuring great expressive power. This function is called **WMT (Wave Mix Table)**.

WAVE

Group (Wave Group)

Selects the group for the waveform that is to be the basis of the Rhythm Tone.

Available Settings:

INT: Waveform stored in the XV-5080's memory.

XP-A–H: Waveform on the wave expansion boards A–H.

> *   *It is not possible to select a Group of a Wave Expansion Board that is not installed.*

SAMPLE: Samples (Wave data) loaded into the SIMM (memory module) from a sampler library or other source.

L (Wave Number L)

Range: 1–****

Selects the waveform that forms the basis of a Rhythm Tone. You can choose a separate waveform for each of the XV-5080's left channel.

R (Wave Number R)

Range: 1–****

Selects the waveform that forms the basis of a Rhythm Tone. You can choose a separate waveform for each of the XV-5080's right channel.

> *   *By holding down [SHIFT] and pressing [F6], you can rapidly switch between STEREO and MONO tones.*

Tempo Sync

Determines whether the waveform is synchronized (ON) or not synchronized (OFF) to the Rhythm's tempo.

Gain & Level

Gain (Wave Gain)

Range: -6– +12

Specifies the gain (amplitude) of the waveform. The value changes in 6 dB (decibel) steps—an increase of 6 dB doubles the waveform's gain. If you intend to use the Booster to distort the waveform's sound, set this parameter to its maximum value.

Level (Wave Level)

Range: 0–127

Adjusts the volume of each of the Rhythm Tone's waveforms to establish the desired volume balance between the waves.

> *   *The volume of the Rhythm Tone is set by the Tone Level setting (Rhythm TVA Parameter page), and the Wave Level setting is multiplied to this setting. (p. 177)*

Pan

Range: L64–63R

Establishes the stereo location of the waveform. L64 is far left, 0 is center, and 63R is far right.

The pan of the Rhythm Tone is set by the Tone Pan setting (Rhythm TVA Parameter page), and the Wave Pan setting is added to this setting. (p. 178)

Random (Wave Random Pan Switch)

Use this setting to cause the waveform's panning to change randomly each time a key is pressed (ON) or not (OFF).

The stereo width of the change is set by the Random Pan Depth setting (Rhythm TVA Parameter page). (p. 178)

Alternate (Wave Alternate Pan Switch)

Use this setting to cause the waveform's stereo position to flip from the left to the right each time a key is pressed (ON) or not (OFF).

The stereo width of the change is set by the Alternate Pan Depth setting (Rhythm TVA Parameter page). (p. 178)

Tune

Coarse (Wave Coarse Tune)

Range: -48– +48

Adjusts the Wave pitch in semitone steps over a range of +/- 4 octaves.

Fine (Wave Fine Tune)

Range: -50– +50

Adjusts the pitch of the Wave in one-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

FXM

Switch (Wave FXM Switch)

Range: ON/OFF

Sets whether FXM will be used (ON) or not (OFF).

Color (Wave FXM Color)

Range: 1–4

Specifies how FXM will perform its frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

Depth (Wave FXM Depth)

Range: 0–16

Specifies the depth of the modulation produced by FXM.

RHYTHM WG Pitch page ([RHYTHM] - [F2 (WG)] - [F2 (Pitch)])

```
RHYTHM WG Pitch              DRM:PopDrumSet 1 ■
Key:C 2(Hybrid Kick )                WMT(1---)
 Pitch                   Random Pitch
  Coarse Tune       C 4  Depth                   0
  Fine Tune           0


 WG Prm  [Pitch ] Pch Env  V.Range        JumpTVF
```
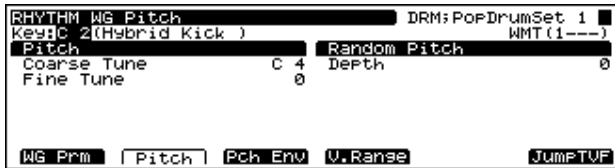
Pitch (Rhythm Tone Pitch)

Coarse Tune (Rhythm Tone Coarse Tune)

Range: C-1–G9

Adjusts the pitch of the Tones in semitone steps over a range of +/-4 octaves.

Fine Tune (Rhythm Tone Fine Tune)

Range: -50–+50

Adjusts the pitch of the Tone in one-cent steps (1/100th of a semitone) over a range of half a semitone up or down.

Random Pitch (Rhythm Tone Random Pitch)

Depth (Rhythm Tone Random Pitch Depth)

Range: 0–1200

Specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want a random pitch change, set this parameter to 0. The setting is adjustable in units of 1 cent (1/100th of a semitone).

RHYTHM WG Pitch Envelope page ([RHYTHM] - [F2 (WG)] - [F3 (Pch Env)])
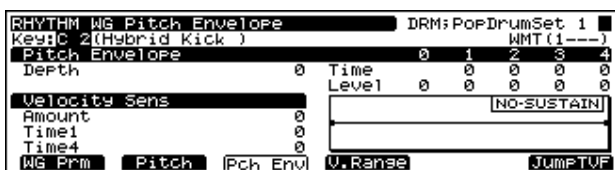
```
RHYTHM WG Pitch Envelope     DRM:PopDrumSet 1 ■
Key:C 2(Hybrid Kick )                WMT(1---)
 Pitch Envelope           0   1   2   3   4
  Depth             0  Time    0   0   0   0
                      Level 0  0   0   0   0
 Velocity Sens                      NO-SUSTAIN
  Amount             0
  Time1              0
  Time4              0
 WG Prm  Pitch  [Pch Env] V.Range        JumpTVF
```

Pitch Envelope

These parameters determine the amount of pitch enveloping — changes to your basic pitch settings that occur over time — the effect of velocity on the pitch envelope, and the basic characteristics of the pitch envelope itself.
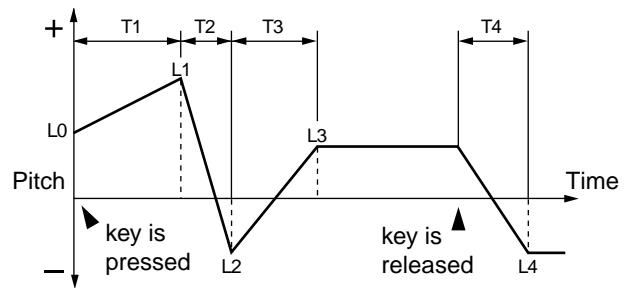
Depth (Pitch Envelope Depth)

Range: -12–+12

Determines the amount of pitch enveloping to be used. Higher values will cause greater change. Negative (-) settings invert the direction of the changes made by the Pitch Envelope.

Time1–4 (Pitch Envelope Time 1–4)

Range: 0–127

Determine the times over which the basic pitch settings will change from one pitch envelope level (L1–L4) to the next.

Level 0–4 (Pitch Envelope Level 0–4)

Range: -63–+63

Each pitch envelope level value determines an amount of change to be applied to the Tone's basic pitch.

Velocity Sens (Pitch Envelope Velocity Sensitivity)

Amount (Pitch Envelope Time Amount Sensitivity)

Range: -63–+63

Adjust this parameter when you want your keyboard playing dynamics (velocity) to affect the amount of pitch enveloping. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Time1 (Pitch Envelope Time 1 Velocity Sensitivity)

Range: -63–+63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the pitch envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Chap.6

Time4 (Pitch Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the pitch envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

RHYTHM WG WMT Vel Range page ([RHYTHM] - [F2 (WG)] - [F4 (V.Range)])

```
RHYTHM WG WMT Vel Range        DRM:PopDrumSet 1 ■
Key:C 2(Hybrid Kick )                   WMT(1---)
Velocity Control
  Switch            ON
WMT L.F V.L V.U U.F   1     ← Velocity Range →   127
(1)  0   1 127    0  [                              ]
(2)  0   1 127    0  [ .............................]
(3)  0   1 127    0  [ .............................]
(4)  0   1 127    0  [ .............................]
WG Prm   Pitch   Pch Env  V.Range)         JumpTVF
```
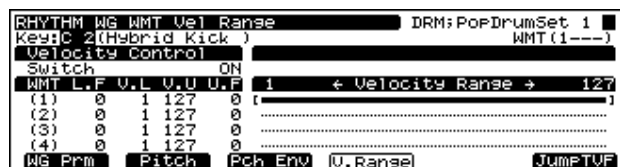
Velocity Control

Switch

Determines whether Velocity range will be recognized (ON), or ignored (OFF). When set to RANDOM, the Wave will sound randomly, regardless of any Velocity messages.

L.F (WMT Velocity Fade Width Lower)

Range: 0–127

Determines what will happen to the Tone's level when the Tone is played at a velocity lower than its specified velocity range. Higher settings result in a more gradual change in volume. If you don't want notes played outside the specified velocity range to be heard at all, set this to 0.
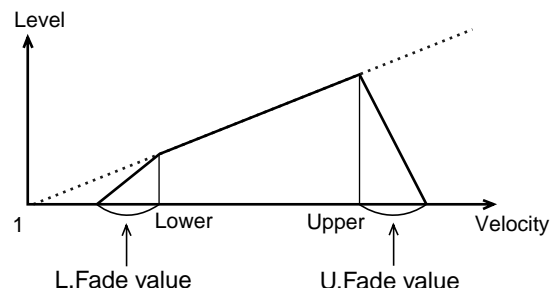
V.L (WMT Velocity Range Lower)

Range: 1–UPPER

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

V.U (WMT Velocity Range Upper)

Range: LOWER–127

Specifies the highest limit of playing dynamics (key velocity) which will sound the Tone. Make these settings when you want different Tones to sound in response to notes played at different strengths.

*   *It is not possible to set the Lower value higher than the Upper value, or the Upper value below the Lower value. If you attempt to do so, the two values will change simultaneously.*

U.F (WMT Velocity Fade Width Upper)

Range: 0–127

Determines what will happen to the Tone's level when the Tone is played at a velocity greater than its specified velocity range. Higher settings result in a more gradual change in volume. If you don't want notes played outside the specified velocity range to be heard at all, set this to 0.

Velocity Range

Status of these settings will be displayed.

RHYTHM WG Sample page ([RHYTHM] - [F2 (WG)] - [F5 (Sample)])

You can edit the Sample (Wave data) loaded into the SIMM (memory module).

*   *These settings cannot be made unless a Sample is being used.*

```
RHYTHM WG Sample              BRS:Fat Sect 1ds ■
Sample:0001[STR:Vln Mtl A_4 ] Sampling Freq( 48.0kHz)
Sample                  Loop
  Original Key   A 4    Mode   FORWARD    Tune    +50
Sample  Start-Fine    Loop    Start-Fine     End-Fine
  00000000-    0     00076280-   0 00092130-    0

                                          ← Back
```

Sample

Sampling Freq. (Sampling Frequency)

Displays the original sampling frequency of the loaded Sample.

Original Key

Displays the original key of the loaded Sample.

Loop

Mode (Loop Mode)

Displays the loop mode of the loaded Sample.

Available Settings:

FWD (Forward):

After the Sample played back from the Start point to the Loop End point, it will then be repeatedly played back in the forward direction, from the Loop Start point to the Loop End point.

ONE-SHOT:

The sample will be played back only once, from the Start point to the Loop End point.

ALT (Alternate):

When the sample has been played back from the Start point to the Loop End point, playback will repeat to the Loop Start point, then go back and forth between the Loop Start point and the Loop End point.

REV-ONE (Reverse One-shot)

The sample will be played back only once from the Loop End point to the Start point in the reverse direction.

REV (Reverse):

When the sample has been played back from the Loop End point to the Start point, it will be repeatedly played back in the reverse direction, from the Loop Start point to the Start point.

Tune (Loop Tuning)

Range: -50–50

Determines the fine pitch setting within the loop, in one-cent steps (1/100 of a semitone).

Start-Fine (Start Point - Start Point Fine)

• Start Point

Range: 0–

Specifies the point in the sample from which data will be read.

• Start Point Fine

Range: 0–255

This is a fine adjustment of the Start Point.

Loop Point Start-Fine (Loop Start Point - Loop Start Point Fine)

• Loop Start Point

Range: 0–

Specifies the point in the sample from which the loop will be started.

• Loop Start Point Fine

Range: 0–255

This is a fine adjustment of the Loop Start Point.

End-Fine (End Point - End Point Fine)

• End Point

Range: 0–

Specifies the point to which the loop will be read.

• End Point Fine

Range: 0–255

This is a fine adjustment of the End Point.

Using the Filter to Modify the Brightness ([F3 (Key TVF)])

The settings for the TVF (Time Variant Filter) allow you to change a Rhythm Tone's timbral content by altering its brightness or thickness.

RHYTHM TVF Parameter page ([RHYTHM] - [F3 (Key TVF)] - [F1 (TVF Prm)])

TVF

Filter Type (TVF Filter Type)

Selects the filter type. A filter typically reduces, or attenuates, a specific frequency range within a Tone in order to accentuate its other frequencies.

Range:

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency. Since the high frequency range is cut, the sound will become more mellow. This is the most frequently-used type of filter.

BPF: Band Pass Filter. This type of filter leaves only the region in the vicinity of the cutoff frequency, and cuts the rest. It is useful for making distinctive sounds.

HPF: High Pass Filter. This type of filter cuts the portion that lies below the cutoff frequency. It is useful for making percussive or other sounds. that have a distinctive high range.

PKG: Peaking Filter. This emphasizes frequencies around the

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cutoff frequency by raising their level. You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

LPF2: Low Pass Filter 2. This reduces the volume of all frequencies above the cutoff frequency. This differs from LPF in that you can control the amount of the reduction using the TVF ENVELOPE settings while still maintaining a fixed cutoff frequency.

This can be very effective with acoustic-instrument-based Tones, since nothing is done to weaken the power and energy of the sound.

This disables the Resonance setting.

LPF3: Low Pass Filter 3. This reduces the volume of all frequencies above the cutoff frequency. While similar to LPF2, it filter reduces the frequencies more gently than LPF2.

This can be very effective with acoustic-instrument-based Tones, since nothing is done to weaken the power and energy of the sound.

This disables the Resonance setting.

Cutoff Freq (TVF Cutoff Frequency)

Range: 0–127

Specifies the frequency (cutoff frequency) at which the filter will begin to affect the frequency characteristics of the waveform.

With LPF/LPF2/LPF3 selected for the Filter Type parameter, lower cutoff frequency settings reduce a Tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter.

When Filter Type is BPF, the cutoff frequency setting determines the range of frequencies within the Tone that will be heard. It is useful for making distinctive sounds.

When Filter Type is HPF, higher settings of the cutoff frequency decrease the level of the Tone's low frequencies, preserving its brighter qualities.

When Filter Type is PKG, the cutoff frequency setting determines the range of frequencies to be emphasized.

Resonance (TVF Resonance)

Range: 0–127

Increases the level of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Resonance Velo (TVF Resonance Velocity)

Sens (TVF Resonance Velocity Sens)

Range: -63– 63

Use this parameter when you want velocity to affect the amount of Resonance. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Cutoff Velo (TVF Cutoff Velocity)

Curv (TVF Cutoff Velocity Curve)

Range: FIXED/1–7

Selects one of seven curves that determine how keyboard playing dynamics (velocity) influence the Tone's cutoff frequency. The selected curve is displayed graphically to the right of its value.

When V-Curve is set to "FIXED," the cutoff frequency remains unchanged regardless of how hard or soft the keys are played.

Sens (TVF Cutoff Velocity Sens)

Range: -63– +63

Sets the amount of change produced when the keyboard touch is used to change the cutoff frequency. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

RHYTHM TVF Envelope page ([RHYTHM] - [F3 (Key TVF)] - [F2 (TVF Env)])
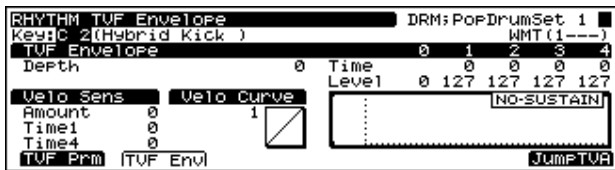
```
RHYTHM TVF Envelope        DRM;PopDrumSet 1 ■
Key:C 2(Hybrid Kick )            WMT(1---)
 TVF Envelope        0   1   2   3   4
  Depth            0  Time  0   0   0   0
                      Level  0 127 127 127 127
 Velo Sens   Velo Curve           NO-SUSTAIN
  Amount    0       1
  Time1     0
  Time4     0
 TVF Prm  TVF Env                  JumpTVA
```

TVF Envelope

These parameters determine the amount of filter enveloping – changes to your original cutoff frequency setting that occur over time – the effect of velocity on the TVF envelope, and the basic characteristics of the TVF envelope itself.

Depth (TVF Envelope Depth)

Range: -63– +63

Adjusts the amount of filter enveloping. Higher values will cause greater change. Negative (-) settings invert the direction of the changes made by the Pitch Envelope.

Time 1–4 (TVF Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the cutoff frequency setting will change from one TVF envelope level (L1–L4) to the next.

Level 0–4 (TVF Envelope Level 0–4)

Range: 0–127

Each TVF envelope level value determines an amount of change to be applied to the original cutoff frequency setting.

Velo Sens (TVF Envelope Velocity Sensitivity)

Amount

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect the depth of the TVF Envelope. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) values invert the change.

Time1 (TVF Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVF envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce

the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVF Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVF envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Amount V-Crv (TVF Envelope Velocity Curve)

Range: FIXED/1–7

This selects one of seven velocity curves that determine how velocity will affect the depth of the TVF Envelope. The selected curve is displayed graphically to the right of its value.

When set to "FIXED," the TVF envelope depth remains unchanged, regardless of how hard or soft you play.

Making the Volume Change ([F4 (Key TVA)])

RHYTHM TVA Parameter page ([RHYTHM] - [F4 (Key TVA)] - [F1 (TVA Prm)])
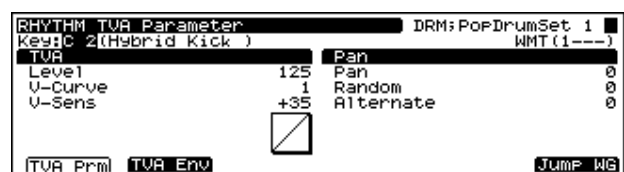
```
RHYTHM TVA Parameter       DRM;PopDrumSet 1 ■
Key:C 2(Hybrid Kick )            WMT(1---)
 TVA                  Pan
  Level       125      Pan          0
  V-Curve       1      Random       0
  V-Sens      +35      Alternate    0

 TVA Prm  TVA Env                   Jump WG
```

TVA

The TVA (Time Variant Amplifier) controls volume changes to the Tone as well as its stereo positioning.

Level (Tone Level)

Range: 0–127

Sets the volume of the Rhythm Tone. Use this parameter to adjust the volume balance between Rhythm Tones.

The overall volume of the Rhythm Set is set by the Rhythm Level (Rhythm Common page) setting, raising or lowering the Tone level settings of its individual Rhythm Tones by the selected amount. (p. 169)

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V-Curve (TVA Level Velocity Curve)

Range: FIXED/1–7

This setting allows you to select from seven velocity curves that determine how the force with which the keyboard is played is to affect the Tone's volume. The selected curve is displayed to the below of its parameter value.

When set to "FIXED," the Tone's volume will not be affected by the force with which the keyboard is played.

V-Sens (TVA Level Velocity Sens)

Range: -63– +63

Use this setting when you want keyboard touch (velocity) to affect the Tone volume. Set this to a positive value to have the changes in tone volume increase the more forcefully the keys are played; to make the Tone play more softly as you play harder, set this to a negative value.

Pan

Pan (Tone Pan)

Range: L64–63R

Specifies the stereo position of the Tone. L64 is far left, 0 is center, and 63R is far right.

Random (Random Pan Depth)

Range: 0–63

Use this parameter to activate random panning, note-by-note. Higher values will result in a greater width of change.

Alternate (Alternate Pan Depth)

Range: L63–63R

This setting causes panning to be alternated between left and right each time a key is pressed. Higher values will result in a greater width of change. You can select the stereo placement of the first key using this parameter – its opposite will be used for the second note, and so on back and forth. If you want to alternate the pan position of two Tones, set them to the exact opposite L and R settings.

RHYTHM TVA Envelope page ([RHYTHM] - [F4 (Key TVA)] - [F2 (TVA Env)])
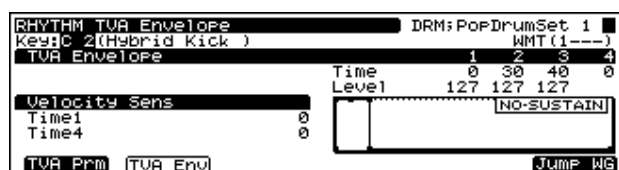
TVA Envelope

Time 1–4 (TVA Envelope Time 1–4)

Range: 0–127

These settings determine the times over which the Tone level setting will change from one TVA envelope level to the next.

Level 1–3 (TVA Envelope Level 1–3)

Range: 0–127

Each TVA envelope level value determines an amount of change to be applied to the original Rhythm Tone level setting.

Velocity Sens

Time1 (TVA Envelope Time 1 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (Time 1) of the TVA envelope. For higher settings, there will be a greater difference between softly and strongly played notes. With positive (+) settings, greater keyboard velocity will reduce the T1 setting. With negative (-) settings, greater keyboard velocity will increase the T1 setting.

Time4 (TVA Envelope Time 4 Velocity Sensitivity)

Range: -63– +63

Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (Time 4) of the TVA envelope. With higher settings, the T4 value will change more significantly depending on whether you release the key slowly or quickly. With positive (+) settings, greater keyboard velocity will reduce the T4 setting. With negative (-) settings, greater keyboard velocity will increase the T4 setting.

Other Settings ([F5 (Key Ctl)])

RHYTHM Key Control page ([RHYTHM] - [F5 (Key Ctl)])

```
RHYTHM Key Control            DRM:PopDrumSet 1 ■
Key:C 2(Hybrid Kick )                  WMT(1---)
 Control            MIDI Rx Switch
 Bend Range        0  Expression Sw           ON
 Mute Group      OFF  Hold-1 Sw               ON
 Assign Type   MULTI
 Envelope Mode NO SUS  Pan Mode         CONTINUOUS

 Common   Key WG   Key TVF   Key TVA  Key Ctl  Effects
```
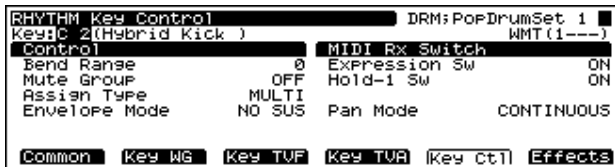
Control

Bend Range (Tone Pitch Bend Range)

Range: 0–48

Sets the amount of pitch change that will occur when you move the Pitch Bend lever. The settings value affects the Bend Range in both the upper and lower directions.

*   Depending on the wave being used, the pitch may not be able to rise as far as expected, and could stop rising at a certain pitch.

Mute Group

Range: OFF/1–31

The Mute Group function allows you to designate two or more Rhythm Tones that are not allowed to sound simultaneously. For example, in a real-world acoustic drum set, an open hi-hat and a closed hi-hat sound will never occur simultaneously, since they're produced by the same instrument – the hi-hat is either open or closed, but not both at the same time. To simulate this behavior on the XV-5080, you can set the open and closed hi-hat Rhythm Tones to the same Mute Group, thus preventing them from being heard at the same time.

You can have up to 31 Mute Groups per Rhythm Set. If you do not want a Rhythm Tone to use a Mute Group, turn it "OFF."

Assign Type

Range: MULTI/SINGLE

This setting determines whether a Rhythm Tone note that is playing is stopped when the same note is played again (SINGLE), or whether it will continue to play, layered with the new note.

Envelope Mode (Rhythm Tone Envelope Mode)

Range: NO SUS/SUSTAIN

When a loop-type waveform is selected, it will normally continue to sound as long as a key is pressed. If you want a note to decay naturally even when the key remains pressed, set this to "NO SUS."

*   If a one-shot type Wave is selected, it will not sustain even if this parameter is set to "SUSTAIN."

MIDI Rx Switch (MIDI Receive Switch)

These parameters determine how each Rhythm Tone in a Rhythm Set will respond to received Expression/Hold 1/Pan MIDI messages.

Expression Sw (Expression Receive Switch)

Range: OFF/ON

If you want the Rhythm Tone to respond to Expression messages, turn this parameter on. If not, turn it off.

Hold-1 Sw (Hold 1 Receive Switch)

Range: OFF/ON

Set this ON when you want each Tone to receive Hold1 messages. If not, set OFF.

Pan Mode (Pan Mode Receive Switch)

Range: CONT/KEY-ON

CONTINUOUS: Pan messages will be responded to immediately, instantly changing the stereo position of the Rhythm Tone.

KEY-ON: The stereo location of the Tone will be changed only when the next note is played. If a Pan message is received while a note is sounding, its stereo location will not change.

Making Effect Settings

Refer to "Settings in the Rhythm Set Mode" (p. 36).

Saving the Rhythm Set You Create

Refer to "Saving a Rhythm Set" (p. 194).

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Copying Settings from Some Other Rhythm Tone

The Rhythm Tone settings in a Rhythm Set you select can be copied to the current Rhythm tone. This can save you a great deal of time and effort when editing sounds.

1. Confirm that the copy-destination Rhythm Tone is currently selected.

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

   * *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F2 (Copy)].

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to "Type."

6. Turn the VALUE dial to select "Key."

7. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

8. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

9. Press [F6 (Copy)] to initiate the copy.

   * *Press TONE SELECT [1] - [4] in the Key Selection parameter to select the percussion instrument (key) you want to set.*

TONE SELECT [1]: Selects the key one octave below the currently selected key.

TONE SELECT [2]: Selects the key a semitone below the currently selected key.

TONE SELECT [3]: Selects the key a semitone above the currently selected key.

TONE SELECT [4]: Selects the key one octave above the currently selected key.

   * *You can also press a key on a connected MIDI keyboard to select the percussion instrument sound (key). (p. 168)*

MEMO

Patch Name Copy

You can copy the Patch name by setting the value to "NAME" in Step 6 above.

Compare Function

You can use the Compare function during the Rhythm Key Copy operation.

The Compare function allows you to play the Rhythm Tone currently occupying the copy source. To do so, press [F1 (Compare)] to access the Rhythm Compare page. The new Rhythm Tone can also be selected from the Rhythm Compare page. However, it is not possible to select patches from XP-A through F. After selecting a rhythm tone, press [F1] again to return to the previous page.

   * *The Compare function cannot be used if a Rhythm Tone of the temporary area (Temporary Patch) is selected as the copy-source Rhythm Tone.*

   * *Please be aware that when the Compare function plays a Rhythm Tone, it may sound slightly different than when it is played normally.*

Chapter 7 Loading a Variety of Data

Loading Sampler Libraries (CD-ROM)

Now let's try loading a sampler library (such as the optional L-CDX Series) into the XV-5080 and playing some sounds.

Playing sampler libraries with the XV-5080 requires a SCSI-type CD-ROM drive (the optional CDR-88RW-2), and commercially available SIMMs (memory modules).

*   * At least 16 MB (32 MB or more recommended) of additional memory is required.*

MEMO

The AKAI S1000/3000 CD-ROM sound libraries can also be loaded. (p. 187)

Installing the SIMM (Memory Module)

Loading commercial sampler libraries into the XV-5080 requires installation of a SIMM memory module. The XV-5080 is equipped with two slots for SIMMs, allowing you to expand memory capacity by 128 MB (with two 64-megabyte SIMMs installed).

SIMMs for use with the XV-5080 must match the following specifications.

Number of pins:	72
Access time:	60 ns or faster
Access protocol:	FPM or EDO
Voltage:	5 V
Capacity:	64 MB/32 MB/16 MB (can be mixed)

Both parity and non-parity are supported.

SIMM height: 36 mm or less

Cautions When Installing SIMM

To avoid the risk of damage to internal components that can be caused by static electricity, please carefully observe the following whenever you handle the board.

*   Before you touch the board, always first grasp a metal object (such as a water pipe), so you are sure that any static electricity you might have been carrying has been discharged.
*   When handling the board, grasp it only by its edges. Avoid touching any of the electronic components or connectors.
*   Save the bag in which the board was originally shipped, and put the board back into it whenever you need to store or transport it.

Use a Philips screwdriver that is suitable for the size of the screw. If an unsuitable screwdriver is used, the head of the screw may be stripped.

To remove a screw, rotate the screwdriver counter-clockwise. To tighten the screws, rotate the screwdriver clockwise.

loosen ⊕ tighten
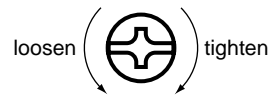
*   Be careful not to cut your hands on the edges of the opening while removing the cover.
*   When adding SIMMs, remove only the specified screws.
*   Be careful that the screws you remove do not drop into the interior of the XV-5080.
*   Do not touch any of the printed circuit pathways or connection terminals.
*   Never use excessive force when installing a circuit board. If it doesn't fit properly on the first attempt, remove the board and try again.
*   When circuit board installation is complete, double-check your work.
*   Do not leave the cover removed. Be sure to reattach it after the SIMM has been installed.

1. Turn off the power on the XV-5080 and any connected devices, and disconnect any cables connected to the XV-5080.

2. Detach the cover on the top of the XV-5080.

Screws to be removed
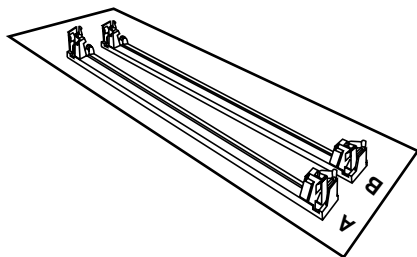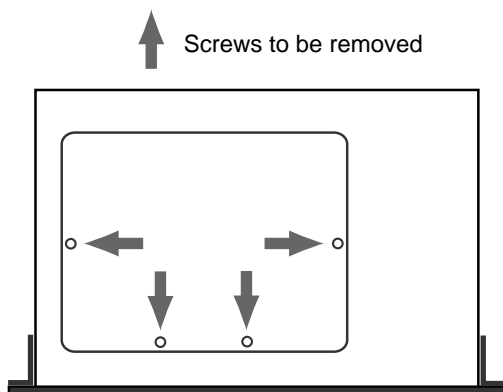
3. The order in which the slots are used when installing the SIMMs depends on the number of SIMMs added. Refer to the table below.

SIMM Slot Installation Order

Two cards:	A, then B
One card:	A

4. After confirming the position of the SIMM's notch and its orientation, insert the SIMM at an angle into the slot.

5. Using your fingers, push up on the SIMM until it stands upright in the slot.

The SIMM is then held in place with the silver-colored latches on both sides of the slot.
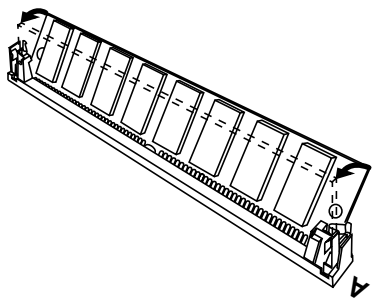
6. When installing more than one SIMM, repeat Steps 4 and 5.

7. Return the XV-5080's top cover to its original position.

This completes installation of the SIMM or SIMMs.

Removing SIMMs

Remove SIMMs in the reverse order of that used for installation.

NOTE

Before beginning this procedure, turn off the power to the XV-5080 and all connected devices.

1. Simultaneously push the silver-colored latches on both sides of the slot outwards.

The SIMM is released from the latches, and remains in the slot, at an angle.
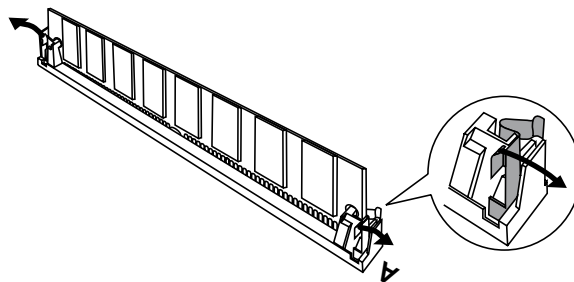
2. Pull the SIMM out of the slot.

Confirming That the SIMM Is Properly Installed

1. Press the [SYSTEM/UTILITY] button, getting its indicator to light.

   * *If the indicator is blinking, you are in UTILITY mode. Press the [SYSTEM/UTILITY] button again, so the indicator lights steadily.*

2. Press the [F6 (Info)] button.

The SYSTEM Info page will appear.

3. Confirm that the capacity of the SIMM appears next to the slot in which it is placed.

   * *If no SIMM has been installed, or if the installed SIMM is not being recognized properly, "—–" appears in the display.*

   * *If the SIMM is not properly recognized, or if the capacity indicated for the installed SIMM differs from its actual capacity, turn off the power, and carry out the procedure once more. Check again, and if you get the same result, it means that that particular SIMM cannot be used in the XV-5080.*

Installation de la carte d'extension Wave
(French language for Canadian Safety Standard)

Les cartes d'exten-sion Wave contiennent des donnees Wave, aussi bien que des morceaux musicaux et des ensembles rythmiques utilisant ces donnees, auxquelles on peut directement acceder dans la zone temporaire et les faire jouer.

Precautions lors de l'installation de la carte d'extension Wave

- Pour éviter tout dommage des composants internes pouvant provenir de l'électricité statique, veuillez suivre les conseils suivants quand vous installez la carte.

- * *Avant de toucher la carte, saisissez toujours un objet métallique (tuyau d'eau ou autre) pour être sûr que l'électricité statique se décharge.*

- * *Quand vous saisissez la carte, prenez-la par les bords. Evitez de toucher les composants électroniques ou les connecteurs.*

- * *Conservez le sac dans lequel la carte était emballée et remettez la carte dedans pour l'expédier ou l'entreposer.*

- Utiliser un tournevis cruciforme correspondant à la taille de la vis (un tournevis numéro 2). En cas d'utilisation d'un tournevis inapproprié, la tête de la vis pourrait être endommagée.

- Pour enlever les vis, tourner le tournevis dans le sens contraire des aiguilles d'une montre. Pour resserrer, tourner dans le sens des aiguilles d'une montre.

desserrer (⊕) resserrer

- Lors de l'insertion de la carte d'extension Wave, enlevez seulement les vis indiquées dans les instructions.

- Veillez à ne pas laisser tomber de vis dans le châssis du XV-5080.

- Ne pas laisser le panneau de protection avant détaché. S'assurer de l'avoir rattacher après avoir installé le disque dur.

- Ne touchez aucun des circuits imprimés ni les bornes de connexion.

- Veillez à ne pas vous couper les doitgs sur le bord de l'ouverture d'installation.

- Ne jamais forcer quand vous installez une carte de circuits. Si la carte ne rentre pas correctement, ressortez-la et ressayez.

- Quand la carte est installée, vérifiez si l'installation est correcte.

Pour installer une carte d'extension (vendue en option dans les séries SR-JV80 et SRX), détacher la plaque du dessus. La carte de série SRX s'installe dans l'emplacement EXP-E,F et la carte de série SR-JV80, dans l'emplacement EXP-A–D.

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Chapter 7 Loading a Variety of Data

1. Éteindre le XV-5080 et tout l'équipement qui y est relié. Ensuite, déconnecter tous les câbles qui sont reliés au XV-5080.

2. Enlever la plaque protectrice du dessus du XV-5080.

Vis à enlever
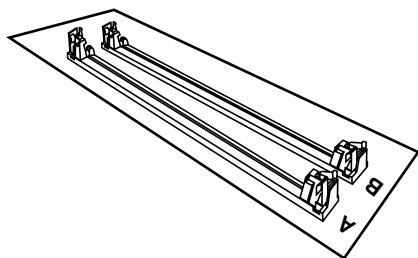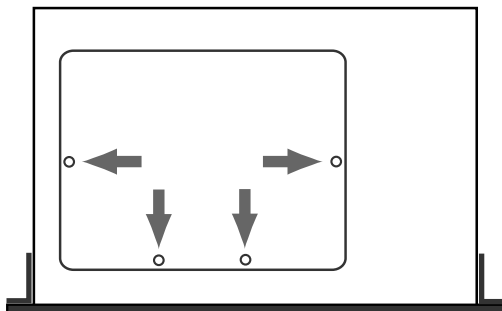
3. L'emplacement et l'ordre d'installation sont déterminés par le nombre de cartes que vous désirez ajouter. Se référer au tableau ci-dessous pour procéder à l'installation:

Nombre de cartes mémoireWaveEmplacement et ordre d'installation

2	A et B dans cet ordre
1	A

4. Vérifier la position des encoches sur la carte mémoire et leur orientation puis, insérer la carte de biais.

5. Orienter la carte en position verticale avec vos doigts.

La carte mémoire est fixée dans les ressorts argentés à chaque extrémité de l'emplacement.
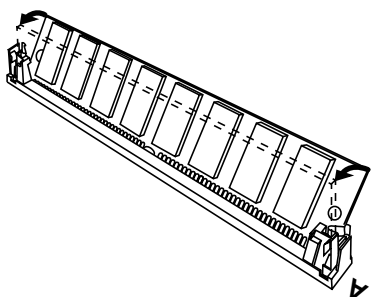
6. Pour ajouter plus d'une carte mémoire, répéter les étapes 4 et 5.

7. Replacer la plaque du dessus du XV-5080.

Ceci complète les procédures d'installation pour augmenter la mémoire.

Enlever une carte mémoire Wave

Enlever les cartes de mémoire des emplacements dans l'ordre inverse que celui effectué lors de l'installation.

1. Pousser simultanément vers l'extérieur les ressorts argentés aux deux extrémités des emplacements.

Cette manipulation détache la carte des ressorts et la laisse de biais dans l'emplacement.
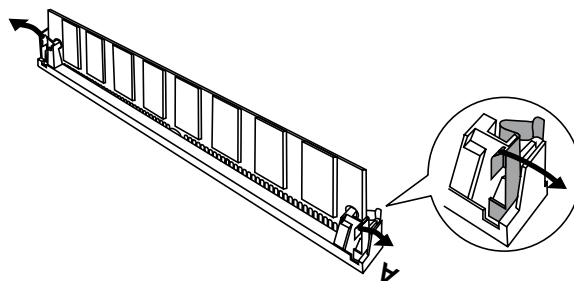
2. Retirer la carte de l'emplacement

Assurez-vous que les modules SIMM sont installés correctement

1. Appuyez sur le bouton [SYSTEM/UTILITY] pour que le voyant lumineux s'allume.

   * *Si le voyant clignote, l'appareil est en mode « Utilitaire ». Appuyez à nouveau sur le bouton [SYSTEM/UTILITY] pour que le voyant lumineux reste allumé sans clignoter.*

2. Appuyez sur le bouton [F6 (Info)].

L'écran Information Système apparaît.

3. Assurez-vous que la taille du module SIMM est affichée à côté du nom de la fente dans laquelle il est installé.

« —– » s'affiche à côté du nom de la fente si aucun module SIMM n'y est installé ou si un module SIMM y est installé incorrectement.

Connecting a CD-ROM Drive
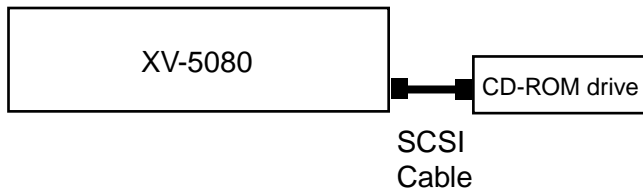
1. Turn off the power of the XV-5080 and any connected external devices.

2. Connect the XV-5080 and the CD-ROM drive with a SCSI cable (one equipped with a 25-pin D-sub type connector at the XV-5080 end).

3. Set the SCSI ID with the SCSI switch on the rear panel. Any number is acceptable, as long as each device has a different SCSI ID.

   * *For more on the CD-ROM drive SCSI ID settings, please refer to the owner's manual for the device you are using.*

NOTE

The SCSI ID switch settings "8" and "9" cannot be used with the XV-5080.

4. Set the CD-ROM drive's terminator to ON.

   * *For more on the CD-ROM drive terminator settings, please refer to the owner's manual for the device you are using.*

   * *For more on making SCSI connections, please refer to p. 239 of the Owner's Manual.*

With Sampler Libraries

1. Turn on the power to the CD-ROM drive and the XV-5080.

2. Place the CD-ROM (sampler library) that you want to load in the CD-ROM drive.

3. Press [DISK].

The Disk Menu page will appear.

4. Press [F1 (Load)].

The Load page will appear.

5. Press [F1 (Drive)].

The Drive window will appear.
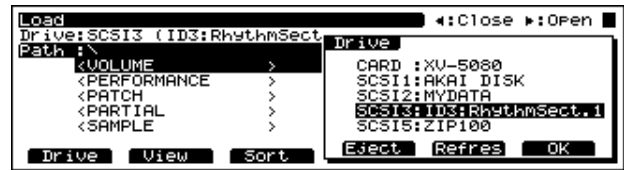
The SCSI ID and Volume Label of the connected SCSI device appear in the window.

6. Turn the VALUE dial to select the SCSI ID that was set when the CD-ROM drive was connected.

7. Press [F6 (OK)].

The CD-ROM's contents are displayed.

   * *Items enclosed by <> indicate folders. Folders cannot be loaded.*

   * *The types of folders displayed vary depending on the library being loaded. "Refer to "About the Sampler Library Folder Types (Indication)" (p. 187).*

[F5 (Refresh)]

Pressing this button clears the XV-5080's internal cache. When sharing a Zip Drive with another XV-5080 (or other device), be sure to press this button whenever loading data from the other device concurrently being used.

8. Turn the VALUE dial or press [▲] or [▼] to select the folder containing the file to be loaded.

9. Press [▶], and the files available for loading will be displayed.

   * *Press [◀] to move up one level in the hierarchy.*

HINT

By pressing [F2 (View)], you can specify the category for files to be displayed.
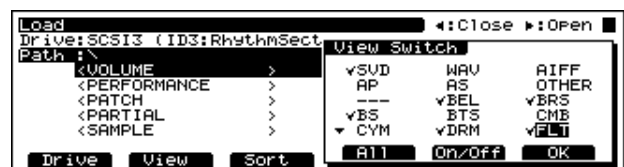
Turn the VALUE dial or press [▲] or [▼] to select the category you want to load, and then press [F5 (On/Off)]. Press [F4 (All)] if you want to set markers in all files. Press this once more to remove all markers. And then press [F6 (OK)] to finalize the category.

For more on category contents, refer to p. 188.

10. Turn the VALUE dial or press [▲] or [▼] to select the file to be loaded and press [F5 (Mark)]; a "✔" is added.

* *Press [F4 (Mk All) if you want to set markers for all files. Press it again to remove all markers.*

HINT

The files can also be sorted. Press [F3 (Sort)] to open the window for selecting the sorting preferences. Turn the VALUE dial or press [▲] or [▼] to select the sort type, then press [F6 (OK)].

Without: Files are displayed in the order in which they have been saved.

Name: Files are sorted by file name, in ascending order.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ : Files are sorted in descending order of file size.

11. Press [F6 (Select)]

The total memory used by the marked files is displayed.

* *After checking the amount of memory, if you find you cannot load to the SIMM, follow the procedure in Step 10 to reset the markers once more.*

12. Press [F6 (Load)].

When selecting Volume, Performance, or Patch files, a message asking "Overwrite in User Group. OK?" appears with a window in which the number and name of the User Group Patch or Performance is shown.

```
Warning
Overwrite the following USER data.  Sure?
  Perform USER -------- (               )
  Patch    USER 001-010 (Xtremities  -Dropplets  )
                         JmpDel  NxtUsr    OK
```
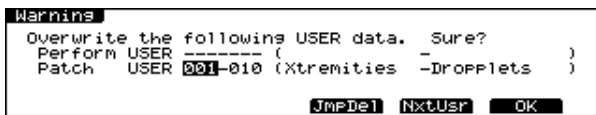
* *To cancel the operation, press [EXIT].*

* *When loading Patches or Performances, you can specify the load-destination Patch or Performance number in this window.*

13. To overwrite while loading, press [F6 (OK)]. If you want to load to an empty location in the User Group, press [F5 (NxtUsr)].

* *If there is no space available in the User Group, "User Performances (Patches) Full   Choose User location and OK to overwrite" is displayed.
In this case, press [F4 (JmpDel)] to display the Delete screen, then proceed to delete a Performance or Patch.*

14. A window appears, in which you can select either to overwrite the data (Partial or wave) on the SIMM (OK), or add to the data (Append).

* *To cancel the operation, press [EXIT].*

* *If there is no available free space open in the SIMM, then press [F4 (JumpDel)] to display the Delete page; you can then delete an unneeded Partial or wave.*

* *You can load a maximum of 4,096 Partials and 8,192 samples (if this does not exceed the capacity of the installed SIMM).*

15. When loading has been completed, the File Selection page will reappear.

```
Warning
Partial/Sample on the SIMM will
be discarded. Sure?
              JmpDel  Append    OK
```
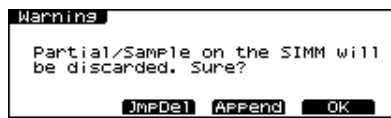
MEMO

You can check the tone of sample, .wav, .aif, and other such wave data files by pressing the VOLUME knob when selecting them.

* *When loading Volume, Performance, Patch, Partial, and Program data, the lowermost file is loaded with it.*

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining in the connected SCSI device.

Marked

The number and size of marked files to be processed are displayed.

Procedure for Deleting a Patch or Performance

After selecting "No" in Step 12 of "Loading Sampler Libraries," press [F4 (JumpDel)] to display the Delete screen.

```
UTILITY Delete
Type:PATCH                      View(    ALL)
 List                          Free Area
  001 PNO:Y2K Concerto          SIMM    128MB
 *002 AGT:XY SteelGt 1          Disk    540MB
 003 FX :Shapeshifter           Card    128KB
 *004 PLS:Trance Fair           Marked
  005 HIT:MOVE!                       10 (  32MB)
  006 PNO:Y2K Concerto
                   View  Mk All   Mark  Delete
```

1. Turn the VALUE dial or press [▲] or [▼] to select the Patch or Performance to be deleted, then press [F5 (Mark)]. To place a marker on all Patches and Performances, press [F4 (Mk All)]. Press this once more to remove all markers.

2. Press [F6 (Delete)] to delete the selected Patch or Performance.

  * *To cancel the operation, press [EXIT].*

  * *When a Patch is deleted, the Partials and samples used in that Patch are deleted simultaneously. However, Partials and samples are not deleted when they are also being used in another Patch.*

HINT

By pressing [F3 (View)], you can specify the category of patches to be displayed.

When the View Switch window appears, turn the

VALUE dial or press [▲] or [▼] to select the category to be displayed, then press [F5 (On/Off)]. To place a marker on all categories, press [F4 (All)]. Press this once more to remove all markers. And then press [F6 (OK)] to finalize the category.

  * *Partials and samples can also be deleted in much the same way as Patches—simply move the cursor to Type and select the type to delete.*

  * *You can also display the Delete screen by pressing [SYSTEM/UTILITY], causing the indicator to flash, then pressing [F4 (Delete)].*

About Each Sampler Library Folder Type (Display)

In the case of the S-700 series

<Volume>:   This indicates Volume folders.

<Performance>: This indicates Performance folders.

<Patch>:   This indicates Patch folders.

<Partial>:   This indicates Partial folders.

<Sample>:   This indicates Sample folders.

When Loading Libraries for the AKAI S1000/3000

<Partition A-?>: This indicates Partition folders.

<Volume>:   This indicates Volume folders. Actually, the name may be set as desired. Check the reference material included with the CD-ROM to be loaded.

  * *Program files are loaded to the User Area as Patches. When files are displayed, as when shown in the File Select screen, the extension ".AKP" is added. In addition, sample files are loaded to SIMMs. When these files are displayed, as when shown in the File Select screen, the extension ".AKS" is added.*

When Loading AIFF/WAV Libraries

The folder display and level varies according to the library (CD-ROM) type.

Check the reference material included with the CD-ROM to be loaded.

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About the Display of Folder Categories in Sampler Libraries

S-700 Series files have the category indicated.

The following categories can be selected.

- other: No Assign
- BEL: Bell(Bell, Bell Pad)
- BRS: Brass(Synth Brass)
- BS : Bass(Acoustic Bass, Electric Bass)
- BTS: Beats(Beat, Groove)
- CMB: Combination(Splitted/Layerd Patch)
- CYM: Cymbals
- DRM: Drums
- FLT: Flute
- GTR: Guitar(Acoustic Guitar, Electric uitar
- HAT: Hi Hats
- HIT: Hits(Orchestra Hit)
- KEY: Keyboards
- KIK: Kick Drums
- KIT: Drum Kits
- MLT: Mallets
- ORC: Symphony Orchestra
- ORG: Organ(Electric Organ, Pipe Organ)
- PAD: Synth Pads(Pad Synth)
- PNO: Piano(Acoustic Piano)
- PRC: Percussion
- SAX: Saxophones
- SFX: Sound Effects
- SNR: Snare Drum
- STR: Strings
- TOM: Toms
- VOX: Voices(Vox, Choir)
- WND: Winds

In addition to the S-700 Series, there is also the following.

SVD: (XV-5080's settings files)

- AIFF: AIFF file
- WAV: WAV file
- AS: AKAI sample
- AP: AKAI patch

Sample Load

All samples (wave data) stored on the memory card are loaded to the XV-5080's SIMM. When switching to a memory card containing Patches or Performances that use samples, the samples in the card are used after being loaded to the SIMM.

> * *Patches and Performances may not sound properly if samples in the inserted card are not loaded to the SIMM.*
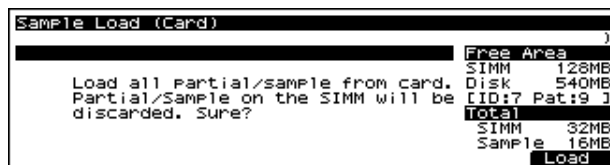
1. Press [DISK], getting the indicator to light.

2. Press [F3 (SampLd)].

3. A message asking you if you want to overwrite the Partials and Samples in the SIMM appears.

4. Press [F6 (Load)] to begin loading the data.

Once the data has been loaded successfully, the display will indicate "Completed!"

5. Press [DISK] to return to the previous page.

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining on the connected SCSI device.

Total

This indicates the total size of the contents of the SIMM and samples on the memory card.

Auto Load

This selects the folder (<Sample>) to which samples are automatically loaded when the XV-5080's power is turned on.

*   *If you select Auto Load, the display will show a message for ten seconds, informing you that "Samples for automatic loading were found. Execute automatic loading?" If you wish to load the samples, press [F6 (Yes)]. If you do not wish to load, press [EXIT]. If you do nothing while the message is displayed (ten seconds), the samples will be loaded automatically.*

1. Press [DISK], getting the indicator to light.

2. Press [F4 (Auto Ld)].

3. Press [F1 (Drive)].

The Drive window will appear.

The SCSI ID and Volume Label of the connected SCSI device appear in the window.

4. Turn the VALUE dial to select the SCSI ID for the drive you want to load.

5. Press [F6 (OK)].

HINT

By pressing [F2 (View)], you can specify the category of files to be displayed.

Turn the VALUE dial or press [▲] or [▼] to select the category to be loaded, then press [F5 (On/Off)]. Press [F4 (All)] if you want to set markers for all files. Press this once more to remove all markers. And then press [F6 (OK)] to finalize the category.

*   *The category designations are displayed in the upper right of the screen with the View function. When categories are specified, "View(Filterd)" appears. If no category is specified, "View(All)" appears.*

HINT

The files can also be sorted. Press [F3 (Sort)] to open the window for selecting the sorting preferences. Turn the

VALUE dial or press [▲] or [▼] to select the sort type, then press [F6 (OK)].

Without: Files are displayed in the order in which they have been saved.

Name: Files are sorted by file name, in ascending order.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ : Files are sorted in descending order of file size.

6. Display the sample you want to load, then press [F6 (SELECT)].

*   *If you want to delete the settings, press [F5 (OFF)].*

The path name showing the media used for the Auto Load appears below Auto Load Path.

7. Press [DISK] to return to the previous page.

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining on the connected SCSI device.

Total

SIMM

This shows the total memory of the installed SIMM.

Target

This shows the total size of all samples in the selected Sample folder.

Playing Back Loaded Sampler Libraries

Patches and Performances loaded from CD-ROMs are recorded in the USER Group.

After selecting a Patch or Performance in the USER Group, you can then play the sounds.

1. Press [USER], getting the indicator to light.

2. Press [PATCH] or [PERFORM] to make its indicator light.

3. Turn the VALUE dial, or press [INC]/[DEC] to select the Patch or Performance you want to play.

You can play the sounds using a connected MIDI keyboard or other such device.

* *You can also press the VOLUME knob to listen to the sound. When a Performance is selected, this plays the Patch phrase of the currently selected part.*

Loading Data Saved on a Zip Disk

Files containing the collected Patch, Performance, Rhythm Set, System, and Favorites List settings (.SVD), as well as the wave data (.WAV/.AIF) that use them, are saved to Zip Disks. (p. 200)

These files are loaded to the internal memory (All wave data in the Sample folder is also loaded to the SIMM.).

* *A disk that can be used by Windows 98/95/3.1 or MS-DOS can be used as is.*

* *A Mac OS format disk cannot be used.*

1. Turn on the power to the Zip disk drive and the XV-5080.

2. Insert the disk containing the data you want to load.

3. Press [DISK].

The Disk Menu page will appear.

4. Press [F1 (Load)].

The Load page will appear.

```
Load                      ◄:Close ►:Open ■
Drive:SCSI1(CD-ROM DRIVE)    View(FILTERD)
S-760 CD-ROM                 Free Area
  <Volume>                   SIMM    128MB
  <Performance>              Disk    540MB
  <Patch>                    Card    128KB
  <Partial>
  <Sample>
  Drive    View    Sort
```

5. Press [F1 (Drive)].

The Drive window will appear.

```
Load                      ◄:Close ►:Open ■
Drive:SCSI1(CD-ROM DRIVE)
S-760 CD-ROM             Drive
  <Volume>
  <Performance>            CARD  :XV-5080
  <Patch>                *SCSI1:CD-ROM DRIVE
  <Partial>               SCSI2:Formatted
  <Sample>                SCSI3:AKAI
                          SCSI4:Volume A
  Drive    View    Sort      Refres    OK
```
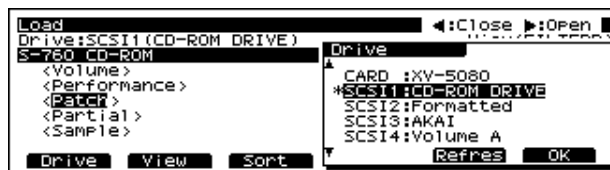
The SCSI ID and Volume Label of the connected SCSI device appears in the window.

6. Turn the VALUE dial to select the SCSI ID for the drive you want to load.

7. Press [F6 (OK)].

The contents of the disk drive appear.

* *Items enclosed by <> indicate folders. Folders cannot be loaded.*

8. Turn the VALUE dial or press [▲] or [▼] to select the folder containing the file to be loaded.

9. Press [►], and the files (.SVD) available for loading will be displayed.

* *Press [◄] to move up one level in the hierarchy.*

10. Move the cursor to the file to be loaded (.SVD) and press [F6 (Select)].

11. Press [F6 (Load)].

All of the XV-5080's settings in effect at the time the particular file was saved are loaded.

* *All data in the User Area is overwritten.*

Individually Loading Patches, Performances, or Rhythm Sets

You can load data for Patches, Performances, or Rhythm Sets separately.

Use the following procedure.

1. Move the cursor to the file (.SVD) that appears in Step 9 in the preceding operation and press [►].

The Patch, Performance, and Rhythm Set folders are displayed.

2. Move the cursor to the type of tone you want to load and press [►].

The files that can be loaded are displayed.

3. Turn the VALUE dial or press [▲] or [▼] to select the file to be loaded, then press [F5 (Mark)] to place a "✔" marker.

* *If you want to place a marker on all files, press [F4 (Mk ALL)]. Press this once more to remove all markers.*

HINT

You can also sort files. When you press [F3 (Sort)] the window for selecting the type of sort is displayed. Turn the VALUE dial or press [▲] or [▼] to select the way you want the files to be sorted, then press [F6 (OK)].

Without: Files appear in the order saved.

Name: Files are sorted according to the file names.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ :   Files are sorted in descending order of file size.

4. Press [F6 (Load)].

A message saying, "Overwriting to the User Group. OK?" appears, and a window showing the User Group Patch and Performance numbers to be overwritten is displayed.

*   *If you want to cancel, press [EXIT].*

*   *When Patches/Performances/Rhythm Sets are loaded individually, only the lower-level data essential to production of the sound will be loaded at the same time.*
    This is convenient when creating an overall XV-5080 settings file (.SVD) that fits the capacity of the SIMMs you actually have installed.

Loading Data Stored on Memory Cards

Data (.SVD) files stored on memory cards holding the Patch, Performance, Rhythm Set, and system settings are loaded to the internal memory. The memory is overwritten when the file is loaded (all wave data in the Sample folder is loaded into the SIMM as well). Should there be any data in internal memory you want to keep, be sure to save it onto a memory card before you begin the load procedure.

1. Press [DISK].

2. Press [F1 (Load)].

3. Press [F1 (Drive)].

4. Turn the VALUE dial and select "CARD."

5. Press [F6 (OK)].

The contents of the card are displayed.

6. Turn the VALUE dial and select the file you want to load.

7. Move the cursor to the file to be loaded (.SVD) and press [F6 (Select)].

8. Press [F6 (Load)].

All of the XV-5080 settings for the selected file, with values as they were when saved, are loaded.

*   *If any samples are used in the file being loaded, a confirmation message appears, asking whether or not you want to overwrite the data (Partials/Waves) already contained in the SIMM. Press [F6 (OK)] to proceed with the load. To cancel, press [EXIT].*

*   *If you want to load only a part of the data in the file, refer to "Individually Loading Patches, Performances, or Rhythm Sets (p. 190)" and "Transmitting to User Memory (p. 204)."*

*   *Although you can directly call up Patches, Performances, and Rhythm Sets on a memory card using Program Change messages, panel controls or MIDI Exclusive messages cannot be used to perform editing. For editing, you need to transfer the data to internal memory first.*

Sample-Related Utilities

Sending and Receiving Samples (Sample Dump)

You can transmit and receive wave data using the Sample Dump MIDI Universal Exclusive Message. Samples (wave data) including loop points and loop modes can be exchanged with samplers supporting the Sample Dump Standard.

*   *Sample name and key-range data is not transmitted. Set this separately on the receiving sampler.*

*   *Data received by the XV-5080 automatically has "MIDI******" added to the name.*

Transmitting Samples

1. Connect the XV-5080 and the receiving sampler with a MIDI cable.

For instructions on making settings for the receiving sampler, refer to the owner's manual for the connected device.

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

*   *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 2.

4. Press the [F2 (S-Dump)] button.

The Sample Dump Standard page appears.

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```
UTILITY Sample Dump Standard
Sample                              Free Area
▲ ◄) 0004 KIK:606 K 1        27KB   SIMM    57.3MB
  ◄)▼ 0005 KIK:606 K 2        27KB
  ◄)▼ 0006 KIK:808 K 1       117KB   Marked
  ◄) 0007 KIK:808 K 2       126KB         3 ( 225KB)
  ◄)▼ 0008 KIK:808 K 3        81KB
▼ ◄) 0009 KIK:808 K 4        90KB
                          Mk All   Mark     Trans
```
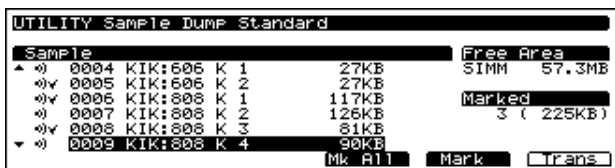
5. Turn the VALUE dial or press [▲] or [▼] to select the Sample to be transmitted, then press [F5 (Mark)]. Press [F4 (Mk All)] if you want to set markers in all samples. Press this once more to remove all markers.

*   *This displays the number and size of marked samples on the display.*

6. Press [F6 (Trans)] to initiate the transmission.

The following message appears on the display: "Transmitting...."

*   *Reception using Sample Dump Standard can only be done in this mode.*

Receiving Samples

1. Connect the XV-5080 and the transmitting sampler with a MIDI cable.

For instructions on making the transmitting sampler settings, refer to the owner's manual for the connected device.

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

*   *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 2.

4. Press the [F2 (S-Dump)] button.

The Sample Dump Standard page appears.

This completes the preparations needed for reception.

5. Transmit the Sample from the transmitting device.

The following message appears in the display: "Receiving...."

Free Area

SIMM

This displays the amount of free space in the SIMM.

Marked

The number and size of marked files to be processed are displayed.

Emphasizing and Suppressing the High End of Loaded Samples (Emphasis)

Emphasizing the high range frequencies in data received in a Sample Dump from another manufacturer's sampler may improve the sound quality of the samples. Furthermore, when samples (wave data) are transmitted to another manufacturer's sampler, the high end of the samples may be boosted in the destination device. In such instances, by suppressing the high frequencies prior to transmission, you can minimize the changes in sound quality that could occur as a result of the transmission.

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

*   *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

2. Press [F6 (Menu)] to select Menu 2.

3. Press [F4 (Emphasis)].

The Emphasis page will appear.

```
UTILITY Emphasis
                                    Free Area
▲ ◄) 0005 KIK:606 K 2        27KB   SIMM    57.3MB
  ◄)▼ 0006 KIK:808 K 1       117KB
  ◄)▼ 0007 KIK:808 K 2       126KB   Marked
  ◄) 0008 KIK:808 K 3        81KB         3 ( 333KB)
  ◄)▼ 0009 KIK:808 K 4        90KB   Processing
▼ ◄) 0010 KIK:808 K 5        72KB   Time       1min
                      Mk All  Mark  -Emphas +Emphas
```
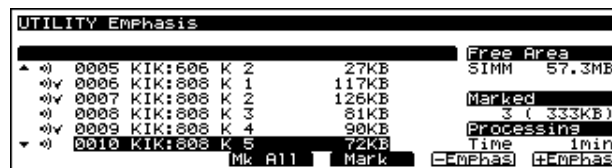
4. Turn the VALUE dial or press [▲] or [▼] to select the sample whose high end is to be emphasized or suppressed, then press [F4 (Mark)]. Press [F3 (Mk All)] if you want to set markers in all samples. Press this once more to remove all markers.

5. If emphasizing the high end, press [F6 (+Emphas)]. If suppressing the high end, press [F5 (-Emphas)].

Free Area

SIMM

This displays the amount of free space in the SIMM.

Marked

The number and size of marked files to be processed are displayed.

Processing

This indicates the approximate time required for processing Emphasis.

Automatically Creating Multi-Partial Patches (Create Patch)

This creates Partials from samples loaded to the SIMM, assigns the samples to the original key, and automatically creates a Multi-Partial Patch.

* *If any of the loaded samples have the same original key, the sample assigned latest is given priority (assignments are made in order of file name).*

* *Patches are created in the Temporary Area. If any Patch is being edited, save it before continuing.*

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

2. Press [F6 (Menu)] to select Menu 2.

3. Press [F5 (Create)].

The Create Patch page appears in the display.

```
UTILITY Create Patch
Sample                                    Free Area
▲ ◄) 0004 KIK:606 K 1        27KB (C 4) SIMM    57.3MB
  ◄)▼ 0005 KIK:606 K 2        27KB (C 4)
  ◄)▼ 0006 KIK:808 K 1       117KB (C 4) Marked
  ◄)  0007 KIK:808 K 2       126KB (C 4)     3 ( 225KB)
  ◄)▼ 0008 KIK:808 K 3        81KB (C 4)
▼ ◄)  0009 KIK:808 K 4        90KB (C 4)
                            Mk All    Mark    Create
```

4. Turn the VALUE dial or press [▲] or [▼] to select the samples composing the Patch, then press [F5 (Mark)]. Press [F4 (Mk All)] if you want to set markers in all samples. Press this once more to remove all markers.

5. Press [F6 (Create)]. The message "Creates a Patch in Temporary area. Sure?" appears.

6. Press [F6 (OK)] to proceed; the Patch is created.

7. After creating this, edit the Split settings as needed.

Free Area

SIMM

This displays the amount of free space in the SIMM.

Marked

The number and size of marked files to be processed are displayed.

Chapter 8 Saving Tones and Other Data You've Created

Saving Edits to the XV-5080's Internal Memory (Write)

If you turn the power off or select another Patch, Performance, or Rhythm Set after you have modified a Patch, Performance or Rhythm Set, the changes you have made will be lost. If you wish to preserve the data, store it into the XV-5080's USER memory.

The following number of Patches, Performances, and Rhythm Sets can be saved in internal memory:

128 Patches, 64 Performances, and 4 Rhythm Sets

* *When saving tones that use samples loaded to the SIMM, you must carry out the Write operation, then save all the data, including the data in the SIMM, to the memory card or Zip disk (p. 195, p. 200).*

* *By selecting a file (.SVD) with CARD or XV-5080 settings saved in Step 5, you can then save directly to the memory card.*

1. Make sure the Patch, Performance, or Rhythm Set that you wish to save is selected.

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F1 (Write)].

The Write page will appear.
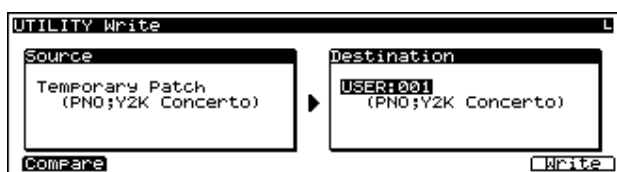
5. Either by rotating the VALUE dial, or by pressing [INC]/ [DEC], select the save destination.

* *When saving a Patch or Rhythm Set, you can use the Compare function to check the sound of the Patch or Rhythm Set at the save destination. (p. 194)*

* *If saving to a CARD, select the save destination file. In this case, the Patch, Performance, or Rhythm Set is overwritten on the card. If there is no file, use the SAVE procedure (p. 195, p. 200) to save the entire internal memory.*

* *Files (.SVD) created on devices or instruments other than the XV-5080 are not displayed when data is being written.*

6. Press [F6 (Execute)], and the material will be saved. You are then returned to the PLAY page.

7. If you wish to cancel the save procedure, press [EXIT].

HINT

The message "Write Protect ON" may appear in a window. If you want to continue with the save, press [DEC] to set Write Protect to "OFF," and press [F6 (OK)] to close the window. Then press [F6 (Execute)] once more to execute the save.

Once set to "OFF," Write Protect remains disabled until the power to the instrument is turned off.

* *In step 5, you can press the VALUE dial (SOUND LIST) and select the save destination from the list.*

- Press [F5 (-10)] or [F6 (+10)] to change the indication in steps of 10.

- When a memory card is inserted in the slot, press [F2] to display Sound List (Card), then press [-Bank] or [+Bank] to switch the bank.

- Press the VALUE dial (SOUND LIST) or [F6 (Execute)] to execute saving. Press [EXIT] to return to the normal display.

Compare Function (Patch/Rhythm Set)

The Compare function allows you to play the Patch/ Rhythm Set currently stored in the selected memory location so that you can make sure you really want to overwrite it. To play the stored Patch/Rhythm Set, press [F1 (Compare)] to display the Patch Compare/Rhythm Compare page.

You can select the write destination in this display as well. After selecting the write-destination Patch/Rhythm Set, press [F1 (Write)] or [EXIT] to return to the Write page.

* *Please be aware that when the Compare function is used to play a Patch/Rhythm Set, it may sound slightly different than when it is played normally.*

When Changing the Settings for the Patch or Rhythm Set Assigned to a Part in a Performance

After changing the settings for the Patch or Rhythm Set assigned to a Part in a Performance, if you then try to save the Performance without first saving the changes in the settings, the following display appears.

```
Utility Write
Source                Destination
  Temporary Perfo    Edited Patch/Rhythm Exists!
  (Andreas Cave      Write them?
                     [**-- ---- ---- ----]
                     [---- *--- ---- ----]
                              PERF    OK
```

A "*" is indicated for Patches/Rhythm Sets that haven't been saved.

*   *If you do not need to save the Patch settings, press [F5 (OK)]. A message will ask for confirmation, so press [F5 (OK)] once again to save the Performance.*

*   *If you press [F6 (Cancel)], you will return to the Perform Write page.*

If you want to keep the Patch or Rhythm Set settings, you will first need to follow the procedure below to save the Patch or Rhythm Set before you go on to save the Performance.

1. Press [F3 (Patch)] or [F4 (Rhythm)].

The page for saving Patches or Rhythm Sets will appear.

```
Utility Write
Source   Part Patch Write
 Tempor                [**-- ---- ---- ----]
 (And                  [---- *--- ---- ----]
         Source      PART 1 (          )
         Destination USER:---(<<No media>>)
                     Press [Exec] to write.
         Comp                          Exec
```

2. Turn the VALUE dial, or press [INC]/[DEC] to select the number of the save destination.

*   *When saving Patches or Rhythm Sets, you can check the sound of the save-destination Patch or Rhythm Set. (p. 194)*

3. Press [F6 (Execute)] to carry out the save procedure.

The "*" indication changes to "-."

If more than one Patch/Rhythm Set needs to be saved, the Source will automatically change to the next Part.

*   *You can also move the cursor to Source and freely select Parts of the Patch to be saved.*

4. Repeat steps 2 and 3 to save the Patch/Rhythm Set.

To return to the Perform Write page without completing the process, press [EXIT].

When you have finished saving the Patch/Rhythm Set, you will automatically return to the Perform Write page.

5. Press [F6 (Execute)] to carry out the save procedure.

Saving All Data to Memory Card ([DISK] - [F2 (SAVE)])

The Patch, Performance, Rhythm Set, and System settings in internal memory can be saved as a single file to a commercially available memory card (SmartMedia 3.3/5 V), with the name you specify.Samples (wave data) loaded to the SIMM are also saved at the same time.

Use cards when you wish to save data for which there is no more space internally, or so that data you've created can be used on another XV-5080.

*   *If there are any samples on the card that you don't want to lose, be sure to save them to another card beforehand, since existing samples on the card will be overwritten during the save process.*

Before Using a Memory Card

*   *Insert memory cards with the gold contacts facing downwards.*

*   *Be sure to insert the memory card all the way into the slot.*

*   *Do not touch the contacts of the memory card, or allow them to become soiled.*

*   *Never remove the memory card or turn off the power while an operation—such as reading or writing data, or formatting—is being performed on the memory card. Doing so can destroy the data on the memory card and/or render the memory card itself unusable. (The CARD indicator flashes when the memory card is being accessed.)*

*   *If you affix the write-protect label to the write-protect area of the memory card, you will not be able to format the card or write data to it. If you wish to format the card or write data to it, do so without the label affixed. For details on the write-protect sticker, refer to the owner's manual for your memory card.*

*   *If you attempt to format a card or write data to it when the write-protect label is affixed, the following message will appear.*
    Memory Card Write Protected

Chap.8

Formatting a Memory Card

This function initializes (formats) a memory card so that XV-5080 data can be saved onto it. Before a new memory card or a memory card used on another device can be used on the XV-5080, it must be formatted on the XV-5080.

* *Please be aware that formatting will erase all the data currently stored on the memory card.*

1. Press [DISK], lighting the indicator.

2. Press [F5 (Tool)].

3. Press [F1 (Format)].

4. Press [F1 (Drive)].

5. Turn the VALUE dial or press [▲] or [▼] to select "CARD."

6. Press [F6 (OK)].

* *If desired, you can change the Volume Label by pressing [F4 (V.Label)].*

7. Press [F6 (Quick)]. The message "Format, OK?" appears.

8. When you press [F6 (OK)], the format is executed.

* *To cancel the operation, press [EXIT].*

MEMO

When formatting the memory card, you can accomplish the same result by executing [F5 (Full)].

Saving Data

Patch, Performance, Rhythm Set, System, and Favorites List settings in internal memory can be saved as a single file to a commercially available memory card (SmartMedia), with the name you specify. Saved files are registered to the Sound Library CARD A-H, and can be managed just like preset sounds.

* *The Sample folder is created and saved automatically if any wave data is used in the Patch or other data.*

* *If you are saving files containing many Patches, which make extensive use of samples (wave data), then you will need a high capacity card. In such cases, we recommend that you save the data to a Zip disk or other such external SCSI device.*

1. Press [DISK].

2. Press [F2 (Save)].

3. Press [F1 (Drive)].

4. Rotate the VALUE dial, or press [▲]/[▼] to select "CARD."

5. Press [F6 (OK)].

6. Press [F6 (SAVE)].

The Save File window will appear.

```
Save File
       Name:[SOUND_00].SVD

       ABCDEFGHIJKLMNOPQRSTUVWXYZ
       0123456789!#$%&'()-@^_`{}

    ← Prev  Next →  Insert  Delete    OK
```

Here, give the file a name, and press [F6 (OK)].

When naming the file, turn the VALUE dial or press [▲], [▼], [◄], or [►] to move the cursor and select the characters for the name, then press [F3 (Next→)].

[F2 (←Prev)]: To move back one character.

[F4 (Insert)]: To insert a "_".

[F5 (Delete)]: To delete the character at the cursor position.

The Save what from SIMM? window will appear.

```
Save what from SIMM?
 ▾WAV  + PARAMETERS
  AIFF + PARAMETERS
  PARAMETERS ONLY
          Full  Quick
```

WAV + PARAMETERS: All of the XV-5080's settings are saved. In addition, samples loaded to the SIMM are saved in WAV format.

AIFF + PARAMETERS: All of the XV-5080's settings are saved. In addition, samples loaded to the SIMM are saved in AIFF format.

PARAMETERS ONLY: All of the XV-5080's settings other than those for sample wave data loaded to the SIMM are saved.

* *When saving with "PARAMETERS ONLY" selected, the wave data itself is not saved. After first performing a save using "WAV + PARAMETERS" or "AIFF + PARAMETERS," which save the waveforms as well, you can save time during tone editing or other operations on the XV-5080 by thereafter carrying out saves (if saving to the same media) using the "PARAMETERS ONLY" option.*
  If you later load data from a CD-ROM or other source, you will need to save the waveforms themselves using the "WAV + PARAMETERS" or "AIFF + PARAMETERS" option.

7. When you are finished making settings, press [F5 (Full)] or [F6 (Quick)].

The save is executed.

[F5 (Full)]: All samples loaded into SIMM will be saved. The saved data will overwrite all samples in the memory card.

[F6 (Quick)]: Only the changes relative to the contents of the memory card will be saved. The samples in the memory card will be compared (by name and size) with the samples loaded into the SIMM memory of the XV-5080, and only the newly added samples or replaced samples will be saved.

If samples not loaded into the SIMM memory are found in the save destination memory card, those samples will be deleted from the memory card.

The sample is automatically registered to an empty bank in CARD A-H.

* *To cancel the operation, press [EXIT].*

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining on the connected SCSI device.

The type of disk is indicated within square brackets ([]). Furthermore, if there are any Partials, those numbers are shown as well.

Organizing the Contents of Memory Cards

<Renaming a File (RENAME)>

1. Press [DISK], lighting the indicator.

2. Press [F5 (Tool)] .

3. Press [F2 (Rename)].

The Card&Disk Rename page appears.

4. Press [F1 (Drive)].

5. Rotate the VALUE dial, or press [▲]/[▼] to select "CARD."

6. Press [F6 (OK)].

7. Rotate the VALUE dial to select the file to be changed.

HINT

By pressing [F2 (View)], you can specify the category of files to be displayed.

Turn the VALUE dial or press [▲] or [▼] to select the category to be loaded, then press [F5 (Mark)]. Press [F4 (Mk All) if you want to set markers for all files. Press this once more to remove all markers.

HINT

The files can also be sorted. Press [F3 (Sort)] to open the window for selecting the sorting preferences. Turn the VALUE dial or press [▲] or [▼] to select the sort type, then press [F6 (OK)].

Without: Files are displayed in the order in which they have been saved.

Name: Files are sorted by file name, in ascending order.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ : Files are sorted in descending order of file size.

8. Press [F6 (Rename)].

The Rename window will appear.
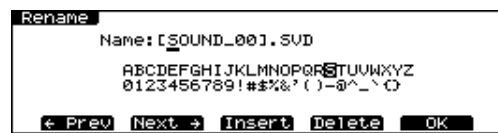
```
┌─Rename─┐
   Name:[SOUND_00].SVD

   ABCDEFGHIJKLMNOPQRSTUVWXYZ
   0123456789!#$%&'()-@^_`{}

 ← Prev  Next →  Insert  Delete   OK
```

9. Turn the VALUE dial or press [▲], [▼], [◄], or [►] to move the cursor and select the characters for the name, then press [F3 (Next→)].

[F2 (←Prev)]: To move back one character.

[F4 (Insert)]: To insert a "_".

[F5 (Delete)]: To delete the character at the cursor position.

10. When you are finished naming the song, press [F6 (OK)].

* *To cancel the operation, press [EXIT].*

Deleting Files (Delete)

1. Press [DISK], lighting the indicator.

2. Press [F5 (Tool)].

3. Press [F2 (Delete)].

The Card&Disk Delete page appears.

4. Press [F1 (Drive)].

5. Rotate the VALUE dial, or press [INC]/[DEC] to select "CARD."

6. Press [F6 (OK)].

7. Turn the VALUE dial or press [▲] or [▼] to select the files to be deleted, then press [F5 (Mark)]. Press [F4 (Mk All) if you want to set markers for all files. Press this once more to remove all markers.

* *After moving the cursor to the folder, you can open the folder by pressing [◄], and close the folder by pressing [►].*

* *Markers on folders are removed when folders are moved.*

HINT

By pressing [F2 (View)], you can specify the category of files to be displayed.

Turn the VALUE dial or press [▲] or [▼] to select the category to be loaded, then press [F5 (Mark)]. Press [F4 (Mk All) if you want to set markers for all files. Press this once more to remove all markers.

HINT

The files can also be sorted. Press [F3 (Sort)] to open the window for selecting the sorting preferences. Turn the

VALUE dial or press [▲] or [▼] to select the sort type, then press [F6 (OK)].

HINT

Without: Files are displayed in the order in which they have been saved.

Name: Files are sorted by file name, in ascending order.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ : Files are sorted in descending order of file size.

8. Press [F6 (Delete)].

The confirmation message "Delete Sure?" appears in the display.

9. When you press [F6 (OK)], the delete is executed.

* *To cancel the operation, press [EXIT].*

* *You cannot delete individual Patches or Performances within a file (.SVD).*

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining on the connected SCSI device.

Marked

This displays the number and size of marked samples being transmitted.

<Copying/Moving Files (Cp/Move)>

1. Press [DISK], lighting the indicator.

2. Press [F1 (Crd&Dsk)].

3. Press [F5 (Tool)].

The Card&Disk Copy Source page appears.

4. Press [F1 (Drive)].

5. Rotate the VALUE dial, or press [▲]/[▼] to select "CARD."

6. Press [F6 (OK)].

7. Turn the VALUE dial or press [▲] or [▼] to select the files to be copied or moved, then press [F5 (Mark)]. Press [F4 (Mk All) if you want to set markers for all files. Press this once more to remove all markers.

HINT

By pressing [F2 (View)], you can specify the category of files to be displayed.

Turn the VALUE dial or press [▲] or [▼] to select the category to be loaded, then press [F5 (Mark)].Press [F4 (Mk All) if you want to set markers for all files. Press this once more to remove all markers.

HINT

The files can also be sorted.Press [F3 (Sort)] to open the window for selecting the sorting preferences. Turn the

VALUE dial or press [▲] or [▼] to select the sort type, then press [F6 (OK)].

Without: Files are displayed in the order in which they have been saved.

Name: Files are sorted by file name, in ascending order.

Size ▲ : Files are sorted in ascending order of file size.

Size ▼ : Files are sorted in descending order of file size.

8. Press [F6 (Select)].

The Card&Disk Copy Destination page appears.

* *The amount of space available on the media at the copy/move destination is displayed. This allows you to check whether or not marked files can be copied/moved.*

9. After pressing [F1 (Drive)], turn the VALUE dial or press

[▲] or [▼] to select the media you want to be the copy/move destination.

When copying or moving to a folder, press [▲] or [▼] to select the move destination folder, then press [►] to close the folder.

10. Press [F6 (OK)].

11. Press [F6 (Copy)] to initiate the copy.

Here, when you press [F5 (Move)], the move is executed.

* *To cancel the operation, press [EXIT].*

* *You cannot copy or move individual Patches or Performances within a file (.SVD).*

<Registering to Banks (Regstry)>

1. Press [DISK], lighting the indicator.

2. Press [F5 (Tool)].

3. Press [F5 (Regstry)].

The Card&Disk Card Registration page appears.

```
Tool Card Registration
Card Bank: File                          Free Area
  A : SOUND_00.SVD   E : SOUND_04.SVD    SIMM       128MB
  B : SOUND_01.SVD   F : SOUND_05.SVD
  C : SOUND_02.SVD   F : SOUND_04.SVD    Total
  D : SOUND_03.SVD   G : SOUND_05.SVD    SIMM      128KB
                                         Sample     62MB
  List                          Cancel  Regster
```
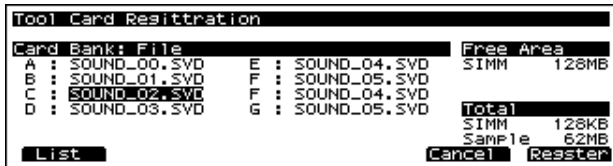
> * *The amount of memory available in installed SIMMs, and the size of samples on the card are displayed.*

4. Press [▲], [▼], [◄], or [►] to move the cursor to the bank to be used for registering.

5. Press [F1 (List)] to display the Sound File List page.

6. Turn the VALUE dial to select the file you want to register, then press [F6 (OK)].

The registration is carried out.

> * *To cancel the operation, press [EXIT].*

MEMO

If no bank is available, you can select the files of a bank you intend to erase, and press [F5 (Cancel)]. The registrations are cancelled, and the bank is thus made empty and available.

Copying Files on One Memory Card to Another Card (CardCpy)

You can take files stored on one memory card and copy them to another memory card.

> * *The copy destination memory card must already be formatted.*

NOTE

Always be sure to follow the on-screen instructions when inserting and removing cards during File Copy. Using a different procedure or sequence may damage the card.

1. Press [DISK], lighting the indicator.

2. Press [F5 (Tool)].

3. Press [F6 (CardCpy)].

The Card&Disk Card Card File Copy page appears.

```
Tool Card File Copy


                    Please Insert Source Card


                                            OK
```
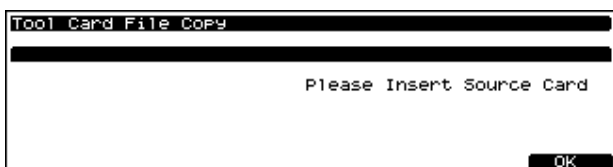
4. After the page indicated in Step 4 appears, insert the card containing the file you want to copy, then press [F6 (OK)].

5. Turn the VALUE dial to select the file you want to copy, then press [F6 (Select)].

The following screen appears.

```
Tool Card File Copy


                    Please Insert Destination
                    Card.


                                            OK
```
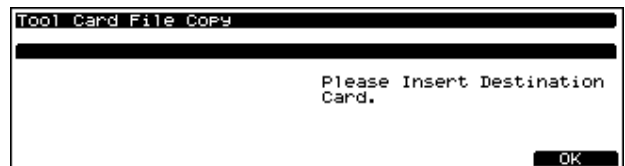
6. When the screen shown above appears, insert the copy-destination card and press [F6 (OK)].

```
Tool Card File Copy

+SOUND_00.SVD
 SOUND_00.SVD        219KB
 SOUND_01.SVD        219KB
 SOUND_02.SVD        219KB

                              Name    Copy
```
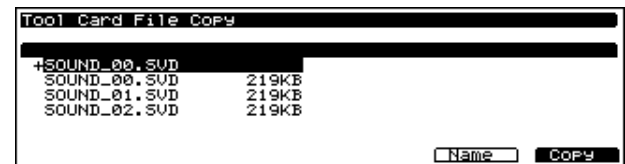
The contents of the copy destination card are displayed. Files in the copy destination with "+" appearing before the file names are shown at the top.

When you execute the copy after selecting the files with the VALUE dial, then only the contents are overwritten, with the copy destination name remaining the same.

MEMO

You can change the file name by pressing [F5 (Name)].

For details on assigning names, refer to **<Renaming a File/Folder (RENAME)>** (p. 201).

> * *After naming the file, pressing [F6 (OK)] the executes the copy.*

7. Press [F6 (Copy)] to execute the File Copy, and the following screen will appear.

> * *To cancel the copy, press [EXIT].*

```
Tool Card File Copy


                    Complete!
                    Continue?


                                           Yes
```
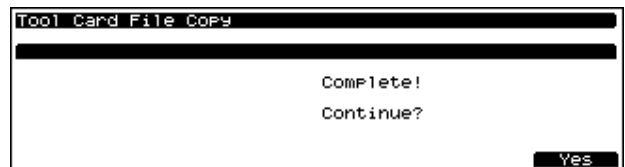
8. fIf you want to go on to copy any further files or other data, press [F6 (Yes)]. To exit the operation, press [EXIT].

> * *No samples on the memory card are copied in this operation. To copy samples, use the Sample Load procedure (p. 188) to load the samples to the SIMM, then save them onto the card (p. 196).*

Saving All Data to Zip Disk ([DISK] - [F2 (SAVE)])

By connecting a SCSI-compatible Zip drive (optional ZIP-EXT-2S), you can take all of the Patch, Performance, Rhythm Set, System, and Favorites List settings that are stored in the internal memory, put them in one single file, name the file, then save it onto a Zip disk. Use Zip disks when you want to save data for which there is no more space available internally, or so the data you've created can be used on another XV-5080.

* *The Sample folder is created and saved automatically if any wave data is used in the Patch or other data.*

Formatting a Zip Disk/Hard Disk (Format)

This function initializes (formats) a Zip disk or a hard disk so that XV-5080 data can be saved onto it. Formatting is required whenever a new disk is used with the XV-5080.

* *Please be aware that formatting will erase any data that may already be residing on the disk.*

There are two types of formatting, **"Quick"** and **"Full"**.

With the Zip disk, first try formatting using "Quick." If unable to format, then a message suggesting the "Full" format appears in the screen. Press [F6 (OK)] to continue with formatting; to cancel, press [EXIT].

When reformatting a disk that has already been formatted, carry out the format according to the following.

If the hard disk has not been partitioned

Use the Quick format.

If the hard disk has been partitioned into a number of separate partitions, and you are formatting a specified partition

Select the partition number, then use the Quick format.

If the hard disk has been partitioned into a number of separate partitions, and you want to format the entire hard disk

Use the Full format (partitions are eliminated).

* *Storage devices that offer a write protect function may have the write protect settings selected. If you try formatting such devices using the "Quick" format, a message suggesting you use the "Full" format appears. Press [F6 (OK)] to continue with formatting; to cancel, press [EXIT].*

* *A disk that can be used by Windows 98/95/3.1 or MS-DOS can be used as is.*

* *A Mac OS format disk cannot be used.*

* *Partitioning of hard disks cannot be done with the XV-5080.*

1. Prepare the media to be formatted.

2. Press [DISK], lighting the indicator.

3. Press [F5 (Tool)].

4. Press [F1 (Format)].

5. Press [F1 (Drive)].

6. Turn the VALUE dial or press [▲] or [▼] to select the drive or partition.

If the disk is one that has been partitioned, the indication "SCSI1:PO*******" is used for the partitions.

7. Press [F6 (OK)].

* *If desired, you can change the Volume Label by pressing [F4 (V.Label)].*

8. Press [F5 (Full)] or [F6 (Quick)]. The message "Format. OK?" appears.

* *If you press "Full" with a partition selected, the entire partition is formatted.*

9. When you press [F6 (OK)], the format is executed.

* *To cancel the operation, press [EXIT].*

10. Press [EXIT] to return to the previous page.

Saving Data

1. Press [DISK].

2. Press [F2 (Save)].

3. Press [F1 (Drive)].

4. Rotate the VALUE dial, or press [▲]/[▼] to select "SCSI *: *******."

* *When copying to a folder, press [▲] or [▼] to select the move destination folder, then press [▶] to open the folder.*

5. Press [F6 (OK)].

6. Press [F6 (SAVE)].
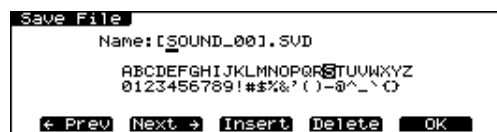
The Save File window will appear.

Here, give the file a name, and press [F6 (OK)].

When naming the file, turn the VALUE dial or press [▲], [▼], [◀], or [▶] to move the cursor and select the characters for the name, then press [F3 (Next→)].

[F2 (←Prev)]: To move back one character.

[F4 (Insert)]: To insert a space.

[F5 (Delete)]: To delete the character at the cursor position.

The Save what from SIMM? window will appear.

WAV + PARAMETERS: All of the XV-5080's settings are saved. In addition, samples loaded to the SIMM are saved in WAV format.

AIFF + PARAMETERS: All of the XV-5080's settings are saved. In addition, samples loaded to the SIMM are saved in AIFF format.

PARAMETERS ONLY: All of the XV-5080's settings other than those for sample wave data loaded to the SIMM are saved.

> * *When saving with "PARAMETERS ONLY" selected, the wave data itself is not saved. After first performing a save using "WAV + PARAMETERS" or "AIFF + PARAMETERS," which save the waveforms as well, you can save time during tone editing or other operations on the XV-5080 by thereafter carrying out saves (if saving to the same media) using the "PARAMETERS ONLY" option.*
> *If you later load data from a CD-ROM or other source, you will need to save the waveforms themselves using the "WAV + PARAMETERS" or "AIFF + PARAMETERS" option.*

7. When you are finished making settings, press [F5 (Full)] or [F6 (Quick)].

The save is executed.

[F5 (Full)]: All samples loaded into SIMM will be saved. The saved data will overwrite all samples in the storage device.

[F6 (Quick)]: Only the changes relative to the contents of the storage device will be saved. The samples in the folder on the external storage device (e.g., Zip) will be compared (by name and size) with the samples loaded into the SIMM memory of the XV-5080, and only the newly added samples or replaced samples will be saved. If samples not loaded into the SIMM memory are found in the folder on the save destination external device, those samples will be deleted from the storage device.

> * *To cancel the operation, press [EXIT].*

8. Press [DISK] to return to the previous page.

Creating a Folder

You can create folders when saving data to Zip drives or other similar external SCSI devices.

Saving all of the XV-5080's settings using a separate folder for the contents of each sample allows you to efficiently manage Patches and other such data that use samples contained in the SIMM.

Pressing [F2 (New)] takes you to the Create New Folder window.

Here, after the name is applied, pressing [F6 (OK)] creates the folder.

For instructions on supplying a name, refer to Step 9 of **<Renaming a File/Folder (RENAME)>** (p. 201).

Free Area

SIMM

This displays the amount of free space in the SIMM.

Disk

This displays the free disk space remaining on the connected SCSI device.

Organizing a Zip Disk

<Renaming a File/Folder (RENAME)>

This is exactly the same as with memory cards. Refer to "Organizing the Contents of Memory Cards" (p. 197).

<Deleting a File/Folder (Delete)>

This is exactly the same as with memory cards. Refer to "Organizing the Contents of Memory Cards" (p. 197).

<Copying/Moving a File/Folder (Cp/Move)>

This is exactly the same as with memory cards. Refer to "Organizing the Contents of Memory Cards" (p. 197).

Initializing a Sound

This function resets all of the parameters in the current Patch, Performance, Rhythm Set or Rhythm Tone to their standard or factory default settings.

> * *Only current data (data in the temproary memory) will be initialized, and data resident in user memory will not be rewritten. If you want to restore all settings to their factory values, carry out Factory Reset. (p. 206)*

> * *To initialize the General MIDI System, refer to **Initializing GM Settings (Init)** (p. 229).*

Type (Initialize Type)

DEFAULT: This resets the data currently in the Temporary memory to the standard values called "initial data": INIT PATCH, INIT PERFORM or INIT SET. Use this setting when you wish to create a sound from scratch.

PRESET: Resets the current data to the factory user group settings.

If the current data is a Performance, Patch or Rhythm Set from PRESET memory (PR-A–G), and initialization is performed with "PRESET" specified, the data will be reset to the value of the correspondingly numbered user group.

For Patches or Performances

1. Select the Patch/Performance you wish to initialize.

If you will be using "PRESET" for the initialization, select the USER group Performance/Patch number whose data you wish to restore.

> * *If you will be using "DEFAULT" for the initialization, it does not matter which Patch or Performance is selected.*

> * *You can select "DEFAULT (4 TONES)"or "DEFAULT (MULTI-PARTIAL)" in a Patch Mode.*

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

> * *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F3 (Initialize)].

The corresponding Initialize page will appear.

```
UTILITY Initialize
Temporary Initialize
 Type: PRESET

 Patch    MIDIIn2            Init
```

5. Either rotate the VALUE dial, or press [INC]/[DEC] to choose "DEFAULT" or "PRESET."

6. Press [F6 (Execute)] to execute initializing and return to the PLAY page.

If you used "DEFAULT" to initialize, the name will be either "INIT PATCH" or "INIT PERFORM."

> * *A "*" symbol will appear at the left of the group name, indicating that the settings have been modified. If you wish to keep the settings, you need to store them. (p. 194)*

For Rhythm Sets

1. Select a Rhythm Set that you wish to initialize.

If you will be using "PRESET" for the initialization, select the USER group Rhythm Set number whose data you wish to restore.

> * *If you will be using "DEFAULT" for the initialization, it does not matter which Rhythm Set is selected.*

2. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

> * *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

3. Press [F6 (Menu)] to select Menu 1.

4. Press [F3 (Initialize)].

The Initialize page will appear.

5. Carry out the following operation for the Rhythm Set to be initialized.

To Initialize a Rhythm Tone

Press [F1 (Key)]. The Rhythm Initialize Key page will appear.

```
UTILITY Initialize
Temporary Initialize
 Type: DEFAULT
 Key : C 4

 Key    All   MIDIIn2            Init
```

To Initialize a Rhythm Set

Press [F2 (All)]. The Rhythm Initialize All page will appear.

```
UTILITY Initialize
Temporary Initialize
 Type: DEFAULT

 Key    All   MIDIIn2            Init
```

6. Either rotate the VALUE dial, or press [INC]/[DEC] to choose "DEFAULT" or "PRESET."

In the case of Rhythm Tone (Key), you must also specify the percussion instrument (key) that you wish to initialize.

Use [▲] [▼] to move the cursor to Key, and either rotate the VALUE dial, or press [INC] [DEC] to select the key.

You can also use TONE SELECT [1]–[4] to select the percussion instrument sound you wish to edit, according to the key that plays it.

TONE SELECT [1]: Selects the key one octave below the currently selected key.

TONE SELECT [2]: Selects the key a semitone below the currently selected key.

TONE SELECT [3]: Selects the key a semitone above the currently selected key.

TONE SELECT [4]: Selects the key one octave above the currently selected key.

* *You can also press a key on a connected MIDI keyboard to select the desired percussion instrument sound (key). (p. 168)*

7. Press [F6 (Execute)] to proceed with the initialization. Afterwards, you're returned to the RHYTHM PLAY page.

If you used "DEFAULT" to initialize the Rhythm Set, the name will be "INIT SET."

* *A "*" symbol will appear at the left of the group name, indicating that the settings have been modified. If you wish to keep the settings, you need to store them. (p. 194)*

Changing the Way MIDI Signals Arriving at MIDI IN 2 Are Handled

By pressing [F2 (MIDIIN2)] in the Initialization screen, you can change the setting that determines how the MIDI signals that arrive at MIDI IN 2 will be handled.

Use the VALUE dial to select the parameter, and press [F6 (Init)] to make the setting.

MIDI IN 2

Mode

GM OFF: Performances, Patches, and Rhythm Sets are controlled, in combination with the signals from MIDI IN 1.

GM: Instates the GM System basic settings. Arriving MIDI signals will control a separate GM sound generator, independent of the Performances, Patches, and Rhythm Sets controlled through MIDI IN 1.

GM2: Instates the GM2 System basic settings. Arriving MIDI signals will control a separate GM sound generator, independent of the Performances, Patches, and Rhythm Sets controlled through MIDI IN 1.

Points to Note When Writing Data

Transmitting Data to an External MIDI Device (Data Transfer)

You can transmit sound generator or System settings that are in the XV-5080's memory—or stored on a memory card—to an external MIDI device or to the XV-5080's USER memory.

Transmitting to an External MIDI Device

The act of transmitting Patch, Performance, Rhythm Set or System data to an external MIDI device is called a "bulk dump." You can perform a bulk dump when two XV-5080s are connected to each other, or when you wish to store Patch, Performance, Rhythm Set or System data on an external MIDI device as a safety backup of your XV-5080 data.

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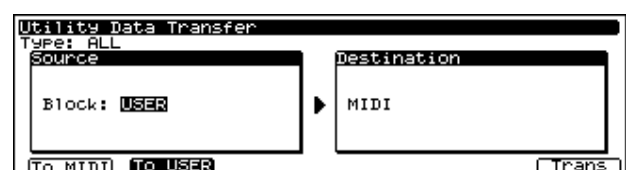
Source

You can specify the data to be transmitted by selecting the appropriate combination shown below.

For example, if you wish to transmit the USER group Patches 001–020, you would specify "PATCH USER: 001–020."

TYPE	BLOCK		
ALL	USER		
	TEMP		
PERFORM	USER	01–64	
	TEMP	-PATCH	*1
		+PATCH	*2
	CTRL		
PATCH	USER	001–128	
	TEMP		
RHYTHM	USER	001–004	
	TEMP		
SYSTEM	USER		

* 1 The current Performance

* 2 The current Performance and the Patch or Rhythm Set assigned to each Part of the Performance

* ALL indicates all of the Patches, Performances, and Rhythm Sets in the following settings (USER or TEMP).

* When set to TEMP, data in the temporary area will be transmitted.

* When set to CTRL, the status of Performances, including Performance Bank Selects and Program Changes, are not sent as Exclusive messages, but rather as MIDI Channel messages. For more on the transmitted MIDI channel messages, refer to "MIDI Implementation." (p. 282)

* It is not possible to transmit GM system settings.

Destination

As shown in the diagram, connect the XV-5080 to the external MIDI device before performing the procedure.
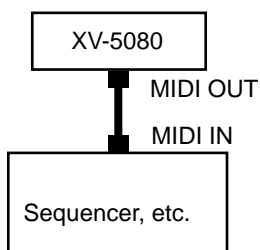
```
            ┌──────────┐
            │ XV-5080  │
            └────┬─────┘
                 ■  MIDI OUT
                 │
                 ■  MIDI IN
            ┌────┴───────┐
            │            │
            │Sequencer,  │
            │   etc.     │
            └────────────┘
```

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.

2. Press [F6 (Menu)] to select Menu 2.

3. Press [F1 (Xfer)].

4. Press [F1 (To MIDI)].

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

6. Turn the VALUE dial or press [INC] / [DEC] to select the desired value.

7. Press [F6 (Trans)] to execute the transmission.

* To cancel the operation, press [EXIT].

Transmitting to User Memory

You can transmit Patch, Performance or Rhythm Set settings to the USER memory and System settings to the System memory.

```
Save                          ◄:Close ►:Open ■
Drive:SCSI5 (ZIP100    )          View(FILTERD)
Path:\NEW\                        Free Area
 ┤SOUND_00.SVD                    SIMM   57.3MB
  <SAMPLE          >              Disk   89.3MB
  SOUND_80.SVD       218KB        [ID:5      ]

   Drive   View   Sort            New   Save
```

You can specify the data to be transmitted by selecting the appropriate combination shown below.

For example, if you wish to transmit only the PR-A group Patch 001, specify "PATCH PR-A: 001–001."

If the selected data is too large to fit completely into the transmission destination, as much of the data as will fit will be transmitted, starting at the first number of the specified transmission destination.

(Example)

Source

Type:	PATCH
Block	PR-A:001–005

Destination

User:127

If the above settings are made and transmission is executed, only the two PR-A group Patches 01 and 02 will be transmitted to USER group Patches 127 and 128.

TYPE	BLOCK		
ALL	PR-A, B		*1
PERFORM	USER *2	01–64	
	PR-A, B	01–32	
	CARD	01–64	*6
PATCH	USER *2	001–128	
	PR-A–G *3	001–128	
	CARD	001–128	*5
	XP-A–H		*4
RHYTHM	USER *2	1–4	
	PR-A–G *3	1–2	
	CARD	1–4	*5
	XP-A–H		*4
SYSTEM	CARD		*6
F-LIST	CARD		*6

* *1 Since there are no others, Performances other than PR-A/B cannot be selected.*

* *2 Move data within the User Memory in block units. The Move destination Patch is overwritten.*

* *3 PR-H uses GM data, and cannot be transmitted.*

* *4 Depends on the Wave Expansion Board installed*

* *5 After designating the file, set the range specifications for the block being transmitted.*

* *6 Specify the file.*

* *If the number sent exceeds the capacity of the User memory, then transmission of the data stops the moment the memory is filled.*

Destination

Set the number at the transfer-destination in "User."

* *You cannot select ALL, SYSTEM, or F-LIST.*

The following shows the setting procedure.

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

2. Press [F6 (Menu)] to select Menu 2.

3. Press [F2 (Xfer)].

4. Press [F2 (to USER)].

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

6. Turn the VALUE dial or press [INC] / [DEC] to select the desired value.

7. Press [F6 (Trans)] to execute the transmission.

* *To cancel the operation, press [EXIT].*

Protecting the Internal Memory (Protect)

This feature helps prevent the accidental overwriting of USER memory to ensure that Patch, Performance or Rhythm Set data is not accidentally erased.

Internal Write Protect

The Internal Write Protect setting prevents the Write operation from accidentally overwriting USER memory locations. When this is set "ON," the data cannot be written. Data can be only written when Internal Write Protect is set to "OFF." When the XV-5080's power is turned on, this setting is automatically turned on, —you will need to turn it off before writing data to the USER memory. It is also possible to turn this setting off during the Write procedure.

Exclusive Protect

The Exclusive Protect setting prevents System Exclusive messages received from an external MIDI device from rewriting USER memory settings. When this is set "ON," the data cannot be written. Data can be only written when Internal Write Protect is set to "OFF." When it is set to "OFF," data can be rewritten, even if the Internal Write Protect setting is set to "ON."

The following shows the setting procedure.

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

2. Press [F6 (Menu)] to select Menu 1.

3. Press [F5 (Protect)].

The User Memory Protect page will appear.

4. Press [◄]/[►] to move the cursor to the parameter you wish to set.

5. Either by rotating the VALUE dial, or by pressing [INC]/[DEC], select the save destination.

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6. Press [EXIT] several times to return to the applicable PLAY page.

* *Even if the Internal Write Protect setting is "ON" (write prohibit), incoming System Exclusive messages can rewrite the User memory data if the Exclusive Protect setting is set to "OFF" (write permit).*

Resetting All Settings to Default Factory Settings (Factory)

This function resets all the XV-5080's settings to their factory default values.

NOTE

If the XV-5080 internal memory already contains important data that you have created, this operation will cause all of this data to be lost. If you wish to preserve any of its contents, you must save them on a commercially available memory card (p. 195) or to an external sequencer (p. 203) or storage device before performing the Factory Reset.

The following shows the setting procedure.

1. Press [SYSTEM/UTILITY], getting its indicator to start blinking.

* *If the indicator is steadily lit, you are in SYSTEM mode. Press [SYSTEM/UTILITY] once again, so the indicator is blinking.*

2. Press [F6 (Menu)] to select Menu 3.

3. Press [F5 (Factory)].

The Factory Reset page appears.

```
UTILITY Factory Reset
   This will clear all the internal memory contents
   and recall factory presets.

               Press F6(Factory) to initialize.

                                              [Factory]
```
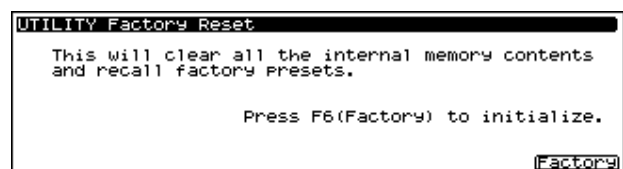
4. Press [F6 (Execute)] to execute Factory Reset.

To cancel the Factory Reset, press [EXIT].

After the Factory Reset operation has been executed, the PATCH PLAY page will appear.

HINT

The message "Write Protect ON" may appear in a window. If you want to continue with the Factory Reset, press [DEC] to set Write Protect to "OFF," and press [F6 (OK)] to close the window. Then press [F6 (Factory)] once more to execute the Factory Reset.

Once set to "OFF," Write Protect remains disabled until the power to the instrument is turned off.

Registering Favorite Patches in the FAVORITE LIST

You can bring together your favorite and most frequently used Patches in one place by registering them in the FAVORITE LIST. The FAVORITE LIST gives you immediate access to your favorite Patches, whether they are in the XV-5080 itself, on Wave Expansion Boards, or on memory cards. You can register up to 64 Patches in this list.

NOTE

If a Patch on a Wave Expansion Board or memory card is registered in the list and selected, no sound will be produced for the Patch unless the required Wave Expansion Board or memory card is inserted.

1. At the PATCH PLAY page, choose the Patch you want to register.

2. Press the VALUE dial.

The Sound List window will appear.

*   *When the SOUND LIST is displayed, press the [F2 (Favorit)] button.*

3. Turn the VALUE dial or press the [INC]/[DEC] button to select the desired registration destination number.

*   *No data is registered at the factory settings.*

MEMO

On this page, pressing the VOLUME knob allows you to audition the Patch being registered.

4. Press the [F3 (Register)] button.

The Patch will be registered to the Favorite List.

To cancel the registration, press the [EXIT] button.

*   *To cancel the registration, select the file you want to cancel, and then press the [F4 (Remove)] button.*

5. Press the [EXIT] button or the VALUE dial to return to the PATCH PLAY page.

MEMO

You can also register the Rhythm Set in the same way.

Directly registering to the list on the PATCH/RHYTHM PLAY page

The following display appears when [SHIFT] is pressed while on the PATCH/RHYTHM PLAY page.

```
PATCH PLAY              Rx-Ch= 1   MFX CHO REV EQ L

PR-A:001  128voicePno

Tone=-2--           Resister to Favotite List
                                        Resistr
 Common    WG
```
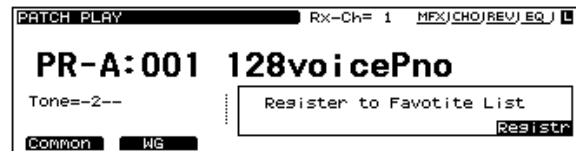
If [F6 (Register)] is pressed at this stage, the data is registered to the lowest-numbered opening on the list.

Although the message "COMPLETED" instantly appears in the display when the registration is executed, if the registration cannot be carried out

Selecting Patches from the FAVORITE LIST

1. Press the VALUE dial.

The Sound List or Favorite window will appear.

*   *If the Sound List window will appear, Press the [F2 (F-List)] button.*

2. Turn the VALUE dial or press the [INC]/[DEC] button to select the desired Patch.

*   *If you want to cancel the selection, simply press the [UNDO] button. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

3. Press the [F6 (Select)] button to return to the previous page.

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Chapter 9 Other Settings/Status Checks

Settings Common to the Entire XV-5080 ([SYSTEM/UTILITY] - [F1 (General)])

```
SYSTEM General #1
Setup                          Master
LCD Contrast            5      Level              0
Patch Remain          OFF      Tune           440.0
Powerup Mode     LAST-SET      Key Shift          0
Character Style     TYPE1      System Tempo
Rhythm Edit Key     PANEL      Clock Source     INT
SCSI Probe Time         1      Tempo            120
General  OutP&EQ   MIDI    Control  Preview   Info
```

Setting Procedure:

1. Press [SYSTEM/UTILITY], getting the indicator to light.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F1 (General)] several times to call up the SYSTEM General #1 page.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

4. Turn the VALUE dial or by press [INC]/[DEC], to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the applicable PLAY page.

Making Overall Settings

Setup

LCD Contrast

Range: 1–10

This adjusts the contrast/brightness of the display. Higher values will make the characters darker.

Patch Remain (Patch Remain Switch)

This specifies whether you want the notes that are sounding to remain (ON) or turn off (OFF) when you select a new Patch or Rhythm Set in Patch mode.

In addition, when "ON" is selected, the Volume and Pan data, and the Key Mode and other settings received via MIDI (CC 5, 7, 10, 65, 68, 71–74, RPN 0, 1, 2, MONO ON, POLY ON) are passed on.

Powerup Mode

Sets the condition of the XV-5080 when its power is turned on.

Available Settings:

DEFAULT: The XV-5080 will be ready to play Patch "USER:001."

LAST: The XV-5080 will power up exactly as it was when it was turned off.

Character Style

Select the style of the large characters that are displayed in the various Play pages (number and name display).

TYPE 1: Bold mono-spaced characters

TYPE 2: Light mono-spaced characters

TYPE 3: Bold proportionally-spaced characters

TYPE 4: Light proportionally-spaced characters

Rhythm Edit Key

You can set whether you'll be able to select percussion instruments for editing only by operating the XV-5080's front-panel controls or also by pressing keys on a connected MIDI keyboard.

Available Settings:

PANEL: Percussion instrument sounds can be selected only by using the XV-5080's TONE SELECT [1]–[4].

PANEL&MIDI: Percussion instrument sounds can be selected using the XV-5080's TONE SELECT [1]–[4] and by pressing a key on a connected MIDI keyboard.

MEMO

If you'd like to select percussion instruments using the XV-5080's [E]–[H] buttons while playing the sounds on a MIDI keyboard, select "PANEL."

SCSI Probe Time

This sets the time spent in recognizing connected SCSI devices. The higher the value set, the longer the time allowed. Ordinarily, this is set to "1."

Settings values: 1-10

   * *If the connected SCSI device is not being recognized, set a higher value, then following the instructions in "Turning Off the Power" in Quick Start (P.12), turn off the XV-5080's power. After this, follow the instructions in "Turning On the Power" in Quick Start (P.12) to turn on the power in the proper sequence.*

Setting the Tuning and Volume Settings

Master

The Master Tune and Master Key Shift settings are common to all Patches, Performances, Rhythm Sets, and the GM Mode.

Level (Master Level)

Range: 0–127

Adjusts the volume of the entire XV-5080.

Tune (Master Tune)

Range: 415.3–466.2 kHz

Adjusts the overall tuning of the XV-5080. The setting is expressed as the frequency played by the A4 key.

Key Shift (Master Key Shift)

Range: -24– +24

Shifts the overall pitch of the XV-5080 in semitone steps.

* *When a Multi-partial Patch or Rhythm Set is selected, this setting is disabled.*

Setting the System Tempo

System Tempo

Clock Source (System Clock Source)

Specifies the tempo clock of the system.

Available Settings:

INT: The internal clock will be the tempo clock for the system.

MIDI: An external clock will be the tempo clock for the system.

Tempo (System Tempo)

Range: 20–250

Sets the system tempo.

* *When Clock Source is set to "MIDI," the tempo will synchronize to the clock messages received from an external MIDI device, so the tempo value will be ignored.*

Making Scale Tune Settings ([SYSTEM/UTILITY] - [F1 (General)])
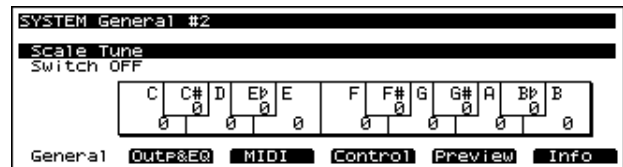
Scale Tune

The XV-5080 allows you to use temperaments other than equal temperament. The pitch of each note can be adjusted in one-cent steps (1/100th of a semitone) relative to its equal-tempered pitch.

One set of Scale Tune settings can be created in Patch mode. In Performance mode and GM system mode, each Part can have its own Scale Tune settings.

* *The selected scale applies to MIDI messages received from an external MIDI device as well as to local sound generation.*

Switch (Scale Tune Switch)

Turn this on when you wish to use a tuning scale other than equal temperament.

Patch Scale C–B

Range: -64– +63

Key Scale C–B

Range: -64– +63

The Settings in Patch Mode (Patch Scale)

* *The Patch's scale tune settings share the same settings as those for Part 1 of the Performance.*

1. Press [PATCH], getting its indicator to light.

2. Press [SYSTEM/UTILITY], and confirm that its indicator has lighted.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to get the indicator to light steadily.*

3. Press [F1 (General)] several times to call up the SYSTEM General #2 page.

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the note name you want to set.

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5. Either turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

* *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

6. Press [EXIT] to return to the applicable PLAY page.

The Setting In Performance/GM mode (Key Scale)

1. Press [PERFORM] or [GM] to make its indicator light.

2. Press [SYSTEM/UTILITY], and confirm that its indicator has lighted.

* *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to get the indicator to light steadily.*

3. Press [F1 (General)] several times to call up the SYSTEM General #2 page.

4. Press PART SELECT [1/17]–[16/32] to select the Part you want to set.

To select Parts 17–32, press [1-16/17-32], getting its indicator to light, and then press the desired PART SELECT [1/17]–[16/32] button.

5. Press [▲]/[▼]/[◄]/[►] to move the cursor to the note name you want to set.

6. Either turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

* *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

7. Press [EXIT] to return to the applicable PLAY page.

\<Equal Temperament\>

This scale divides an octave into 12 equal parts using the tuning system that is most widely used in Western music.

\<Pure Temperament (Tonic is C)\>

With this tuning, the three fundamental chords sound richer compared to equal temperament. This effect only applies to one key, and transposition can produce less-pleasing results.

\<Arabian Scale\>

In this scale, E and B are a quarter note lower, and C#, F# and G# are a quarter-note higher compared to equal temperament. The intervals between G and B, C and E, F and G#, Bb and C#, and Eb and F# have a natural third—the interval between a major third and a minor third. On the XV-5080, you can use Arabian temperament in the three keys of G, C and F.

Example:

Note name	Equal temperament	Pure (tonic C)	Arabian scale temperament
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
Eb	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
Bb	0	+14	-10
B	0	-12	-49

Making the Equalizer Settings ([SYSTEM/UTILITY] - [F2 (Outp&EQ)] - [F2 (EQ)])

You can set the equalization for each of the output jacks.

* *ON and OFF are applied to all of the equalizers as a group. (p. 24)*

```
SYSTEM EQ

Output-A L.F  L.G  H.F  H.G   Output-B L.F  L.G  H.F  H.G
    1(L) 200  +15 8000  +15       3(L) 200  +15 8000  +15
    2(R) 200  +15 8000  +15       4(R) 200  +15 8000  +15
Output-C L.F  L.G  H.F  H.G   Output-D L.F  L.G  H.F  H.G
    5(L) 200  +15 8000  +15       7(L) 200  +15 8000  +15
    6(R) 200  +15 8000  +15       8(R) 200  +15 8000  +15
         Hz   dB  Hz   dB             Hz   dB  (Hz   dB
 General  Output   MIDI    Control Preview   Info
```

Output-A (1/2)–D (7/8)

L.F (Low Frequency)

Range: 200/400 Hz

Selects the frequency of the low range.

L.G (Low Gain)

Range: -15– +15

Specifies the low-frequency gain (amount of boost or cut).

Positive (+) settings will emphasize the low-frequency range.

H.F (High Frequency)

Range: 2000/4000/8000 Hz

Selects the frequency of the high range.

H.G (High Gain)

Range: -15– +15

Specifies the high-frequency gain (amount of boost or cut).

Positive (+) settings will emphasize the high-frequency range.

Setting Procedure:

1. Press [SYSTEM/UTILITY], and confirm that its indicator has lighted.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to get the indicator to light steadily.*

2. Press [F2 (Outp&EQ)] to call up the SYSTEM EQ page.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

4. Turn the VALUE dial or by press [INC]/[DEC] to select the desired value.

* *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the applicable PLAY page.

Establishing the MIDI Settings ([SYSTEM/UTILITY] - [F3 (MIDI)])

```
SYSTEM MIDI

MIDI Receive Ch      MIDI Tx        Rx Switch
Perform Ctrl Ch OFF  Edit Data OFF  Program Change OFF
Patch/Rhy Rx Ch   1                 Bank Select    OFF
System Exclusive     Stack          GM System ON   OFF
Device ID        17  Mode      OFF  GM2 System ON  OFF
Receive Sw      OFF  Number      1  GS Reset       OFF

 General  Outp&EQ  MIDI    Control Preview   Info
```

Setting Procedure:

1. Press [SYSTEM/UTILITY], and confirm that its indicator has lighted.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to get the indicator to light steadily.*

2. Press [F3 (MIDI)] to call up the SYSTEM MIDI page.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

4. Turn the VALUE dial or by press [INC]/[DEC], to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the applicable PLAY page.

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Setting the MIDI Channel

The XV-5080 produces sound, and can change its internal settings in response to MIDI messages that it receives from other devices. In order for this to occur, the MIDI transmission channels of the external device must match the MIDI reception channels of the XV-5080.

MIDI Receive Ch (MIDI Receive Channel)

Perf Ctl Ch (Performance Control Channel)

When changing Performances by MIDI messages from the external device, set the transmit channel of the external device and this channel to the same channel.

* *When you perform a Factory Reset operation, Perform Ctrl Ch is reset to "16."*

Patch/Rhy Rx Ch (Patch/Rhythm Set Receive Channel)

Set this channel to use an external MIDI device (such as a MIDI keyboard) for playing Patches and Rhythm Sets, or to have Patches or Rhythm Sets changed as the result of MIDI messages.

Setting the MIDI Transmit/ Receive Switch

MIDI Tx (MIDI Transmit)

Edit Data (Transmit Edit Data Switch)

When Patch, Performance or Rhythm Set settings are modified, you can specify whether the modified settings will be transmitted as System Exclusive data (ON), or not (OFF).

Rx Switch (Receive Switch)

Program Chg (Receive Program Change Switch)

Specifies whether Program Change messages will be received (ON), or not (OFF).

Bank Select (Receive Bank Select Switch)

Specifies whether Bank Select messages will be received (ON), or not (OFF).

GM System ON (Receive GM-ON Exclusive Switch)

Specifies whether GM-ON (General MIDI System On) messages will be received (ON), or not (OFF).

GM2 System ON (Receive GM2-ON Exclusive Switch)

Specifies whether GM Level2-ON (General MIDI Level 2 System On) messages will be received (ON), or not (OFF).

GS Reset (Receive GS Reset Exclusive Switch)

This specifies whether GS Reset messages will be received (ON), or not (OFF).

Making the System Exclusive Settings

System Exclusive

Device ID (Device ID Number)

Range: 17–32

When transmitting or receiving System Exclusive messages, set this parameter to match the device ID number of the other MIDI device.

Receive Sw (Receive System Exclusive Switch)

Specifies whether System Exclusive messages will be received (ON), or not (OFF).

Specifying the Reception Status for Each Tone

You can enable or disable the response to received MIDI messages for each Part of a Performance, each Tone of a Patch, and each Rhythm Tone of a Rhythm Set.

For more information about setting the MIDI response of Parts in a Performance, check out "Establishing a Part's MIDI Settings (MIDI) (p. 164)."

For more information about the settings for a Patch, refer to "MIDI Rx Switch (MIDI Receive Switch)" (p. 147).

For more about setting the MIDI response of Rhythm Tones in a Rhythm Set, refer to "Other Settings (CONTROL)/Rx MIDI (Receive MIDI)" (p. 179).

MIDI IN connectors

The XV-5080 has two MIDI IN connectors. By providing for the use of two MIDI IN connectors, the XV-5080 readily accommodates a broad variety of performance situations.

The XV-5080's MIDI IN 1 connector is usually used for keyboard performances and the like, whereas the MIDI IN 2 connector is designed as an auxiliary connector, convenient for using a connected sequencer or other device playing accompaniment.

* *If using only one of the MIDI IN connectors, we recommend that you use MIDI IN 1.*

In Patch/Rhythm Set Mode

Both MIDI IN 1 and 2 will be received.
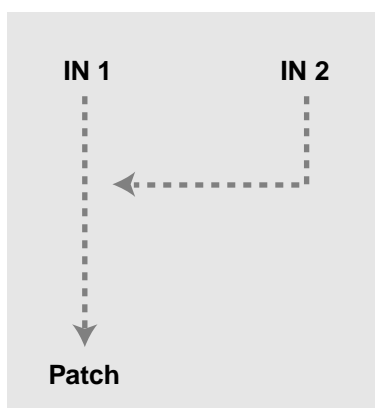
In Performance Mode

The MIDI messages from MIDI IN 1 and 2 are received, for 32 Parts.

Furthermore, you can set the MIDI IN 1/2 reception switch for each of the Parts (p. 165). This means, for example, that you can play Parts 1–16 with the messages from MIDI IN 1 and Parts 17–32 using the messages from MIDI IN 2.
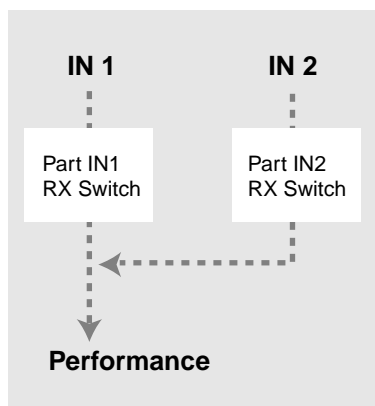
When Using the XV-5080 as a GM Sound Module

• When switching to GM mode by pressing the GM button on the panel:

The MIDI messages from both MIDI IN 1 and 2 are received as 16 GM2 parts.
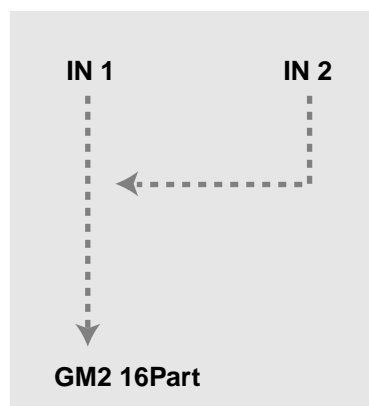
• Reception of GM ON or GS Reset at MIDI IN

The status of the XV-5080 changes as follows, depending on the connector through which a GM ON or GS Reset has been received.

When GM ON or GS Reset is received at MIDI IN 1:

Instates the same status as that which would be entered if the GM button on the panel were pressed to switch to GM mode.
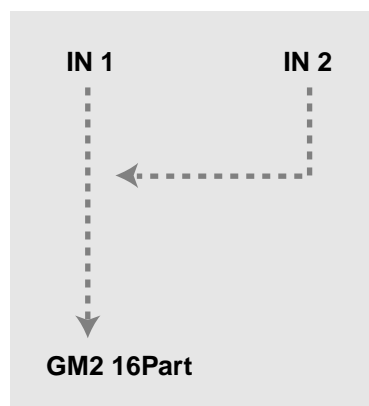
* *When GM ON or GS Reset is received at MIDI IN 2:*

In Patch/Rhythm Set Mode

The instrument plays XV-5080 Patches while functioning as a 16-part GM2 sound module.

You cannot use the panel to select GM2 sound module tones from MIDI IN 2, nor can you edit these tones. They can only be controlled with an external MIDI device.

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```
IN 1              IN 2
  :                :
  :                :
  :                :
  ↓                ↓
Patch          GM2 16part
```
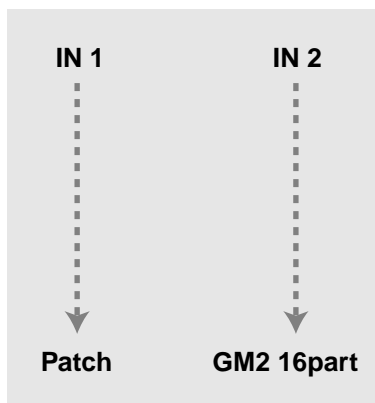
In Performance Mode

The instrument operates as a Performance (32-part) sound module and a 16-part GM2 sound module (for a total of 48 parts). In this case, the MIDI IN 2 Receive switch settings for the Performance's parts are disabled (always OFF).

You cannot use the panel to select GM2 sound module tones from MIDI IN 2, nor can you edit these tones. They can only be controlled with an external MIDI device.

```
IN 1              IN 2
  :                :
  :                :
  :                :
  ↓                ↓
Performance    GM2 16part
```
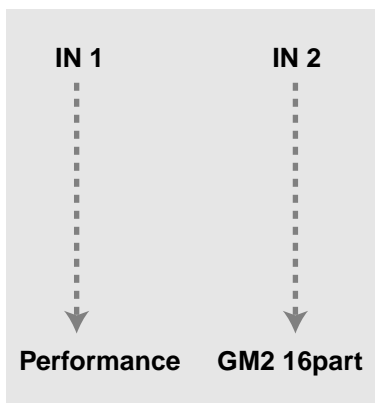
GM Mode

The instrument functions as two independent 16-part GM2 sound modules, one for each of the MIDI IN connectors.

```
IN 1              IN 2
  :                :
  :                :
  :                :
  ↓                ↓
GM2 16part     GM2 16part
```

MEMO
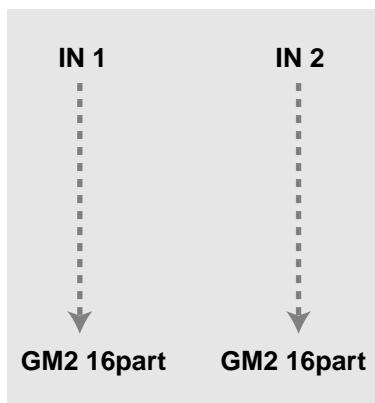
You can initialize the MIDI IN2 GM sound generator and set the status to "GM OFF" in the Initialize screen ([UTILITY] - [Init] - [MIDI In2]).

Connecting Two or More XV-5080s to Increase Polyphony

The Stack function allows you to combine two or more XV-5080 units to increase the number of voices that can be played simultaneously. You can connect and use up to eight XV-5080s.

Usage with Three Connected Units

Sequence of sound played

```
1 ──────▶ 2 ──────▶ 3
4 ──────▶ 5 ──────▶ 6
7 ──────▶ 8 ──────▶ 9
10 ─────▶ - - - - - - - - - - -
```
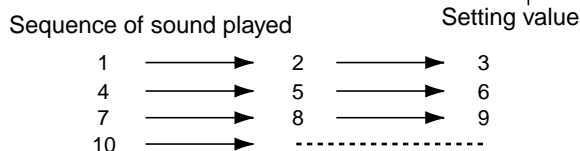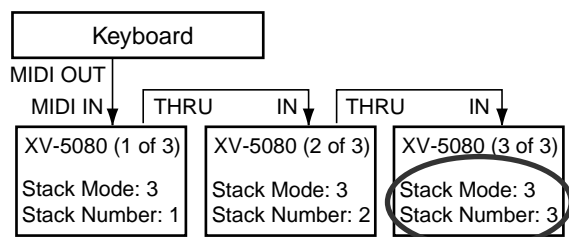
Stack

Mode (Stack Mode)

Range: OFF/2–8

When using more than one XV-5080, set this parameter to 2–8. When not using the Stack feature, set the parameter to OFF.

If Stack mode is turned off, the Stack function will not operate, and each XV-5080 will attempt to sound all of the note messages that it receives.

Number (Stack Number)

Range: 1–8

When the Stack feature is enabled, this parameter selects the XV-5080 that is to function as the primary/first unit—this is the XV-5080 that will sound the first 128 voices.

The Stack function will not operate when using Patches in which Key Assign of Key Mode is set to "MONO" or whose Portamento Switch is "ON" (Patch Common Control #1 page), or for Rhythm Sets. Patches for which the KEY MODE Key Assign is "MONO" or whose Portamento Switch is "ON" will be sounded by the first XV-5080, and Rhythm Sets will be sounded by the second XV-5080.

  * *The Multi-Partial Patches are sounded by the first XV-5080.*

Selecting Common Controllers ([SYSTEM/ UTILITY] - [F4 (Control)])

These settings allow you to choose four MIDI controllers for global use when controlling the parameters of any Patch or Performance. The settings in each Patch or Performance will determine whether the two controllers you choose here will actually be used. In each Patch or Performance, you will also need to specify the parameters to be controlled.

```
SYSTEM Control
System Control 1          System Control 2
Source      CC1/MODULATION Source      CC1/MODULATION
System Control 3          System Control 4
Source      CC1/MODULATION Source      CC1/MODULATION

General  Outp&EQ  MIDI  Control  Preview  Info
```
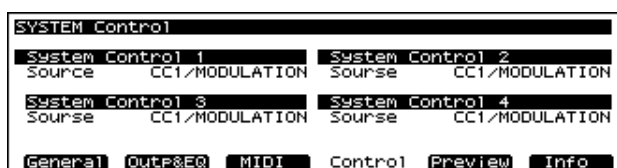
System Control 1–4 (System Control Source 1–4)

Available Settings:

OFF: No controller is used.

CC01–95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

Setting Procedure:

1. Press [SYSTEM/UTILITY], getting the indicator to light.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F4 (Control)] to call up the SYSTEM Control page.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the System Control (System Control Source) you wish to set.

4. Turn the VALUE dial or by press [INC]/[DEC], to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the applicable PLAY page.

Confirming the Current Status ([SYSTEM/UTILITY] - [F6 (Info)])

```
SYSTEM Info                        2x Expanded
Wave Expansion    SRX             SIMM
A:SR-JV-80-10 BS&DR E:----------   A:          64MB
B:--------------  F:SRX-01 Pino   B:         --MB
C:--------------  G:----------   Total:      64MB
D:--------------  H:----------   Free:       64MB
                  Battery Check   SCSI ID
                        OK        XV-5080 Self: 7
General  Outp&EQ  MIDI  Control  Preview  Info
```

The basic steps needed to carry out the procedure are as follows:

1. Press [SYSTEM/UTILITY], and confirm that its indicator has lighted.

   * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to get the indicator to light steadily.*

2. Press [F6 (Info)] to call up the SYSTEM Info page.

3. Press [EXIT] to return to the Play page.

Wave Expansion A–D (Wave Expansion Board Name A–D)

The display shows the names of Wave Expansion Boards (SR-JV80 Series) installed in slots EXP A–D.

Slots without any boards installed are shown as "---------."

SRX (SRX Board Name E–H)

The display shows the names of Wave Expansion Boards (SRX Series) installed in slots EXP E–H.

Slots without any boards installed are shown as "---------."

SIMM

This displays the installation status of any memory modules (SIMMs), used for Wave data.

BATTERY CHECK

The XV-5080 contains a battery that retains the data in its internal memory when the unit's power is turned off. This displays the status of the battery. If the display says "OK," there is sufficient voltage. If the display says "LOW," the battery voltage has run down. Contact your nearby Roland service station as soon as possible to have the battery replaced.

Chap.9

SCSI ID

XV-5080 Self

The current SCSI ID number of the XV-5080 will be
displayed.

Chapter 10 Examples of Applications Using the XV-5080

Controlling the XV-5080 in Real Time Using an External MIDI Device

External MIDI controllers (modulation lever, foot switch, expression pedal, etc.) can be used to modify Multi-effects settings or Tone settings in real time.

Changing the Multi-Effects Settings From an External MIDI Device

The parameters that can be changed via MIDI are predetermined according to the selected Multi-effects.

This applies to the Multi-effects parameters described on p. 44 to p. 105 that have an appended "#" mark.

Settings can be made for each Patch, Performance, and Rhythm Set.

1. Select the Multi-effects you wish to use.

Make the settings in the Effects General page. For the setting procedure, refer to Chapter 2 (p. 25).

2. From the various Play pages, press buttons in the following order to access the Effects MFX #2 page.

For Patches or Rhythm Sets

[F6 (Effects)] - [F3 (MFX Ctl)]

```
Patch Effects MFX #2           ORG:Perky B      ■
Type:08(ROTARY          ) Category(Keyboard    )
 MFX Control  Source         Distination   Sens
     1      CC01/MODULATION        OFF    +63
     2           OFF               OFF      0
     3           OFF               OFF      0
     4           OFF               OFF      0

 General  MFX Prm  MFX Ctl  Chorus   Reverb    ■
```

For Performances or GM System

[F5 (Effects)] - [F3 (MFX Ctl)]

```
Performance Effects MFX #2 Control] ---:Andress Cave■
52(SPEAKER SIMULATOR   )(Guiter&Bass ) MFX-A:PERFORM
 MFX Control   Source         Destination      Sens
 Control 1   CC01/MODULATION  DIRECT LEVEL      +63
 Control 2   CC01/MODULATION  DIRECT LEVEL      +63
 Control 3   CC01/MODULATION  DIRECT LEVEL      +63
 Control 4   CC01/MODULATION  DIRECT LEVEL      +63
 Performance MFX Ctrl Channel  Receive MIDI  IN1 IN2
 MIDI Channel          OFF   Switch         OFF OFF
 General  MFX Prm  MFX Ctl  Chorus   Reverb
```

HINT

Three different Multi-effects can be set for a Performance. Press [F3 (MFX Ctl)] to switch among the MFX-A, MFX-B, and MFX-C pages.
The MIDI channel used for controlling the three multi-effects is determined according to the MFX Source setting (p. 31). Setting MFX Source to "PERF" selects the Performance MFX Ctrl Channel, and when set to "Part 1-32," the Receive Channel settings for each part are used.

3. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

* *Hold down [SHIFT] and press [◄] to move to the parameter furthest to the left.*

4. Either by rotating the VALUE dial or by pressing [INC]/[DEC], set the value.

* *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

5. Press [EXIT] to return to the PLAY page.

* *A "*" symbol will appear at the left of the group name, indicating that the settings have been modified. If you wish to keep the settings, you need to store them. (p. 194)*

* *When the Performance SOURCE is set to a value of PART 1–32, the Part name will appear in the upper right of the display. This indicates that the parameters below are the parameters for the Patch assigned to the Part.*

MFX Control page ([PATCH] - [F6 (Effects)] - [F3 (MFX Ctl)]/ [PERFORM] - [F5 (Effects)] - [F3 (MFX Ctl)])

MFX Control Source

Select the Control Source to be used for changing the Multi-effects parameters, and set the Sens and parameters to be changed by that Control Source.

OFF: No controller is used.

CC01–95: Controller numbers 1–95 (except for 32)

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS-CTRL 1–4: System control 1–4

MFX Control Sens -63– +63

If you wish to modify the selected parameter in a positive (+) direction—i.e., a higher value, toward the right, or faster etc.—from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction—i.e., a lower value, toward the left, or slower etc.—from its current setting, select a negative (-) value. Higher numbers produce a greater amount of change.

MFX Control Destination

Selects the Multi-effects parameter to be controlled using the MFX Control 1–4 source. The parameters that can be selected depend on which type of Multi-effects is set to MFX Type.

Modifying Tone Settings

You can use the Matrix Control parameter to control Tone settings in realtime.

Selecting the MIDI Messages Used for Control and the Parameters to Be Changed

1. Select the Patch you're going to use.

2. Press [F5 (LFO&CTL)].

3. Press [F3 (Control)].

4. Press [▲]/[▼]/[◄]/[►] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial, or press [INC]/[DEC] to select the desired value.

   * *If you've made a mistake, simply press [UNDO]. The value of the parameter will be restored to what it was when you first positioned the cursor there.*

6. Press [EXIT] to return to the PATCH PLAY page.

Matrix Control 1–4

Source (Matrix Control Source)

Assign one of the following controllers to Matrix Control Source. If you wish to use a controller that will apply to all Patches, or a controller that cannot be directly selected here, select SYS-CTRL1–4, and then select the controller using the System Control Source parameters (SYSTEM Control screen).

Available Settings:

OFF: No controller is used.

CC01–CC95: Controller numbers 1–95 (except for 32)

BENDER: Bender

AFTERTOUCH: Aftertouch

SYS-CTRL1: System controller 1

SYS-CTRL2: System controller 2

SYS-CTRL3: System controller 3

SYS-CTRL4: System controller 4

VELOCITY: Velocity

KEYFOLLOW: Keyfollow

TEMPO: Tempo

LFO1

LFO2

PITCH-ENV: Pitch envelope

TVF-ENV: TVF envelope

TVA-ENV: TVA envelope

Destination

Selects the parameters to be controlled.

OFF: No control

PITCH

TMT

Effects parameters ([PATCH] - [F6 (Effects)] (p. 26))

DRY LEVEL

CHORUS SEND

REVERB SEND

MFX CTRL1

MFX CTRL2

MFX CTRL3

MFX CTRL4

WG parameters ([PATCH] - [F2 (WG)] - [F1 (WG Prm)] (p. 136))

FXM DEPTH

LFO parameters ([PATCH] - [F5 (LFO&CTL)] p. 145)

LFO1 PCH DEPTH

LFO2 PCH DEPTH

LFO1 TVF DEPTH

LFO2 TVF DEPTH

LFO1 TVA DEPTH

LFO2 TVA DEPTH

LFO1 PAN DEPTH

LFO2 PAN DEPTH

LFO1 RATE

LFO2 RATE

PITCH parameters ([PATCH] - [F2 (WG)] - [F1 (Pch Env)] p. 138)

PIT ENV A-TIME

PIT ENV D-TIME

PIT ENV R-TIME

TVF parameters ([PATCH] - [F3 (TVF)] (p. 140))

CUTOFF

RESONANCE

TVF ENV A-TIME

TVF ENV D-TIME

TVF ENV R-TIME

TVA parameters ([PATCH] - [F4 (TVA)] (p. 143))

LEVEL

PAN
TVA ENV A-TIME
TVA ENV D-TIME
TVA ENV R-TIME

Sens

Range: -63– +63

Adjusts the amount of change that will occur in response to controller changes. Negative (-) values invert the change. Negative (-) settings will invert the phase. For LFO rates, negative (-) values slow down the LFO, and positive (+) values will speed it up.

Tone

Selects the Tone to which the two previous parameter settings are applied. "o" turns signifies that the Tone is selected for control, "_" that it is not selected, and "R" that the change being applied is inverted when applied to this Tone.

Applications for Patches

Syncing the LFO Cycle to System Tempo

1. Select the Patch you wish to synchronize on the PATCH PLAY page.

2. Set the Patch Clock Source parameter (PATCH Common General #2 page) to "SYSTEM."

3. Set the beat length of the Rate (PATCH LFO&TL LFO 1, 2 page) of each Tone to match the System Tempo.

4. Set the System Clock Source parameter (SYSTEM General #1 page) to "INT."

   * *When System Clock Source is set to "MIDI," you can synchronize the Multi-effect to the tempo of an external MIDI device.*

5. If the System Tempo (SYSTEM General #1 page) changes, the LFO Rate changes along with it.

6. Set the modulation depth as desired using LFO Depth (PATCH LFO&CTL LFO 1, 2 page) for each Tone.

   * *Tempo synchronization is not available with Multi-Partial Patches.*

Modifying Multi-Effects to Match the System's Tempo

You can modify Multi-effects parameter values in time with the System Tempo when you have selected the following Multi-effects.

MFX Type	MFX parameter
16:STEP FLANGER	Step Rate
19:TRIPLE TAP DELAY	Delay L-R
20:QUADRUPLE TAP DELAY	Delay1-4
41:STEREO PHASER	Rate,Step Rate
42:KEYSYNC FLANGER	Rate,Step Rate
43:FORMANT FILTER	Rate
45:MULTI TAP DELAY	Delay1-4
46:REVERSE DELAY	Delay1-4
47:SHUFFLE DELAY	Delay
48:3D DELAY	Delay Left/Right/Center
58:SLICER	Rate
60:3D CHORUS	Rate
61:3D FLANGER	Rate,Step Rate
62:TREMOLO	Rate
63:AUTO PAN	Rate

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64:STEREO PHASER2	Rate,Step Rate
65:STEREO AUTO WAH	Rate
66:ST FORMANT FILTER	Rate
67:MULTI TAP DELAY 2	Delay1-4
68:REVERSE DELAY 2	Delay1-4
69:SHUFFLE DELAY 2	Delay
70:3D DELAY 2	Delay Left/Right/Center
71:ROTARY 2	Woofer Speed Slow/Fast,Tweeter Speed Slow/Fast
72:ROTARY MULTI	Rotary High/Low Slow Rate,Rotary High/Low Fast Rate
73:KEYBOARD MULTI	Phaser Rate,Delay Time Left/Right
74:RHODES MULTI	Phaser Rate,CF Rate,TP Rate
81:GUITAR MULTI A	Delay Time Left/Right,CF Rate
82:GUITAR MULTI B	CF Rate
83:GUITAR MULTI C	AW Rate,Delay Time Left/Right,CF Rate
84:CLEAN GUITAR MULTI A	Delay Left/Right,CF Rate
85:CLEAN GUITAR MULTI B	AW Rate,Delay Left/Right,CF Rate
86:BASS MULTI	CF Rate
89:3D AUTO SPIN	Speed

Here is an example in which STEP FLANGER is used for the Multi-effects.

1. Select a Patch on the PATCH PLAY page.

2. Set the Patch Clock Source parameter (PATCH Common General #2 page) to "SYSTEM."

3. Make sure that MFX Type (PATCH Effects General page) is set to STEP FLANGER.

If not, reset it so that it is.

4. Make sure that Step Rate (PATCH Effects MFX page) is set to a note—not a numerical—value.

If not, reset using a note value.

5. Set the System Clock Source parameter (SYSTEM General #1 page) to "INT."

* When System Clock Source is set to "MIDI," you can synchronize the Multi-effect to the tempo of an external MIDI device.

6. If the System Tempo (SYSTEM General #1 page) changes, the LFO Rate changes along with it.

Making a Tone's Delay Time Match the System Tempo

* You can use the Tone Delay only with Four-Tone Patches.

1. Select a Patch on the PATCH PLAY page.

2. Set the Patch Clock Source parameter (PATCH Common General #2 page) to "SYSTEM."

3. Set the Time parameter (PATCH WG Parameter page) of Tone Delay to the beat length for the tempo you are synchronizing.

If not, reset it so that it is.

4. Set the System Clock Source parameter (SYSTEM General #1 page) to "INT."

* When System Clock Source is set to "MIDI," you can synchronize the Multi-effect to the tempo of an external MIDI device.

5. If the System Tempo (SYSTEM General #1 page) changes, the LFO Rate changes along with it.

Using a Pedal Switch to Modify the Rotary Speed of the Rotary Effect

1. Connect a pedal switch (DP-2, DP-6, etc.) to your external device (MIDI keyboard, etc.).

2. Set the pedal switch of the external MIDI device to generate FOOT TYPE (CC4) control-change messages.

To learn how to set up the pedal switch, refer to the external MIDI device's owner's manual.

3. Select "PR-A: 050 Perky B" on the PATCH PLAY page.

This Patch uses ROTARY as its Multi-effect.

4. Go to the PATCH Effects MFX Control page and set Source of MFX Control 1 to "FOOT TYPE."

5. Set Destination to "SPEED," and Sens to "+63."

When you wish to speed up the rotary effect, press the pedal switch. Release the pedal switch to slow down the rotary effect.

Playing Phrase Loops at a System's Tempo

An optional Wave Expansion Board can contain Patches based on waveforms that are timed—in BPM—phrase loops.

You can play these phrase loops in sync with the System Tempo.

1. On the PATCH PLAY page, select a Patch that uses a phrase loop.

2. Set the Patch Clock Source parameter (PATCH Common General #2 page) to "SYSTEM."

3. Call up the PATCH WG Parameter page.

4. Press TONE SELECT [1]–[4] to choose the Tone that uses waveforms with BPM indication.

Waveform names that have a BPM number in the first part of the name (such as "132: WAVE NAME") are phrase loop waveforms.

5. Confirm that Wave Tempo Sync is set to "ON."

6. Set the Time parameter (PATCH WG Parameter page) of Tone Delay to "0."

If you select a value other than 0, a delay will be applied, and you will not be able to play the Patch normally.

7. Set the System Clock Source parameter (SYSTEM General #1 page) to "INT."

   * When System Clock Source is set to "MIDI," you can synchronize the Multi-effect to the tempo of an external MIDI device.

8. When the System Tempo (SYSTEM General #1 page) changes, the speed of the phrase loop changes along with it.

   * The phrase loop will sound at the system's tempo regardless of which key you press. The settings for pitch and FXM will be ignored.

Changing the Part Settings from an External MIDI Device

By sending Control Change messages for different Part settings, including volume, panning, and pitch, you can change these settings from an external MIDI device connected to the XV-5080. This lets you control fade-ins and fade-outs, open and close filters, and exercise other controls in real time from the external MIDI device.

The parameters that can be used for changing the settings and the Control Change messages that can be used to change the values are shown below.

For more detailed information about Control Change messages, please refer to "MIDI Implementation" (p. 282).

To changing multi-effects, reverb, or chorus effects from an external MIDI device, send a "System Exclusive message" (p. 285).

Making the Volume Change (p. 282)
• Volume: Controller number 7

Changing the Stereo Location (p. 282)
• Pan: Controller number 10

Applying Portamento (p. 283, p. 288)
• Portament: Controller number 65 (Portamento switch), Controller number 5 (Portamento time)

Changing Sounds' Attack and Release Time (p. 283)
• Rel: Controller number 72
• Atk: Controller number 73

Changing the Cutoff Frequency (p. 283)
• Cut: Controller number 74

Changing the Resonance (p. 283)
• Res: Controller number 71

Changing the Amount of Internal Chorus/Reverb (p. 284)
• Chorus: Controller number 93
• Reverb: Controller number 91

Changing the Pitch (p. 285)
• Coarse: Controller number 100 (value is 2), Controller number 101 (value is 0), Controller number 6 (value is 16–112)
• Fine: Controller number 100 (value is 1), Controller number 101 (value is 0), Controller number 6 (value is 32–96), Controller number 38 (value is 0–127)

When changing the Coarse parameter, set the amount of change in pitch with the Control Number 6 (Data Entry MSB) value. There is no change in pitch when the value is set to "64." The pitch is raised as the value increases from 64, and is lowered the more the value decreases below 64.

When changing the Fine parameter, set the amount of change

in pitch with the Control Number 6 (Data Entry MSB) and Control Number 38 (Data Entry LSB) settings. There is no change in pitch when Data Entry MSB is set to "64" and Data Entry LSB to "0." The pitch is raised as the respective values increase, and lowered as the respective values decrease.

Specifying the Range of Pitch Bend (p. 284)

- BendRng: Controller number 100 (value is 0), Controller number 101 (value is 0), Controller number 6 (value is 0–12)

<Procedure>

Enable the external MIDI device to send a Control Change message.

For example, if you want to change the volume level, set the external MIDI device to send Control Number 7 (Volume message). In this case, the MIDI channel is matched to the MIDI channel of the Part the volume of which you want to change.

For information on how to make the settings, refer to the owner's manual for your external MIDI device.

Operate the external MIDI device (adjust the controls, play back using the sequencer, etc.) to send the settings.

Not only is the actual sound played changed, but the values appearing in the display are changed as well.

What is RPN?

"RPN" (Registered Parameter Number) is an extension message prepared by Control Change message. Use RPN when using an external MIDI device to change the XV-5080's Pitch or Pitch Bend range settings. An RPN has an superior part (RPN MSB) and a subordinate part (RPN LSB). The RPN MSB (Control Number 101) informs the XV-5080 that a setting using RPN is to follow, and the RPN LSB (Control Number 100) value tells the which parameter is to be set. Lastly, the Data Entry (Control Change 6) value sets the degree of change.

Once the XV-5080 has been received an RPN parameter, all further Data Entry messages on that MIDI channel are considered to apply to that parameter. In order to prevent accidents, when the desired setting has been made for the parameter, it is recommended that RPN be set to Null.

For example, to raise the pitch of a certain Part by one half-step (semitone) send the following Control Change message from the external MIDI device.

- Controller number 100: value "2"
- Controller number 101: value "0"
- Controller number 6: value "65"
- Controller number 100: value "127" <- RPN null
- Controller number 101: value "127" <- RPN null

For more detailed information about RPN, please refer to the "MIDI Implementation" (p. 282).

Applications for Matrix Control

Controlling the TMT with the LFO and Changing the Tone's Cycle Time Plays

When TMT (Tone Mix Table) is selected as the Matrix Control destination, you can change the timing at which tones used in Patches are played with the Control Source controller.

Here is an example of a Patch with LFO1 set to Control Source, which changes the timing at which the tone is played based on the LFO1's amplitude value.

1. Select "PR-E: 043 Morph Pad" on the PATCH PLAY page.

2. In the PATCH Common TMT Vel Range page (p. 133), set the Velocity Range V.L (Lower) and V.U. (Upper) settings for Tone 1 and 2.

Set the Velocity Range for both of the tones as follows.

	V.L	:	V.U
tone = 1	0	:	64
tone = 2	65	:	127

3. In the PATCH Common TMT Vel Range page, set the Velocity Fade L.F and U.F settings to "10" for Tones 1 and 2.

This makes the Tones fade in and out smoothly outside their velocity ranges.

4. Set TMT Control Switch Velocity-Ctrl to "OFF."

This setting disables the Velocity Range settings made in Step 2 and causes the two Tones to sound simultaneously, regardless of the velocity—the force with which keys are played—received from your MIDI keyboard or sequencer.

5. Set TMT Control Switch Matrix-Ctrl to "ON."

This setting allows the TMT to be controlled by the Matrix Control Controller. The following chart shows all the relationships between Velocity-Ctrl of TMT Control Switch and Matrix-Ctrl.

	(1)	(2)	(3)	(4)
[Velocity-Ctrl]	ON	OFF	ON	OFF
[Matrix-Ctrl]	OFF	OFF	ON	ON

(1) (3): The Velocity Control settings are enabled, and the two Tones are switched on or off according to the velocity data received from the MIDI keyboard or sequencer.

(2): The Velocity Control settings and TMT control by Matrix

Control are disabled, and the two Tones play simultaneously, regardless of the velocity data received from the MIDI keyboard or sequencer.

(4): TMT Matrix Control is enabled, and the timing of the Tones changes according to the Control Source controller data.

> *   *The Velocity-Ctrl settings are given priority when both Velocity-Ctrl and Matrix-Ctrl are set to "ON."*

6. Select "LFO1" as the Matrix Control1 source in the PATCH LFO&Ctrl #1 page (p. 146).

7. Set one of Destination:Sns–Tone of Matrix Control1 as shown below.

Destination: TMT

Sns: +63

Tone: o o _ _ (applied to Tone 1 and 2)

8. In the PATCH LFO&Ctrl LFO1 page (p. 145), set the Form (Wave) and Value (Rate) as shown below.

	tone=1	tone=2
Form:	SIN	SIN
Value:	64	127

MEMO

To change the wave, specify the wave for Tone 1 and 2 in the PATCH WG Parameter page (p. 136).

In this case, you can use the Palette function (p. 135) to display the parameters of four Tones in one screen, making it easier to adjust these settings.

9. Press [EXIT] to return to the PATCH PLAY page.

HINT

Other possible applications include synchronizing the Control Source LFO rate to the tempo, assigning Modulation and other parameters to the Control Source, and changing the Tone in realtime from a MIDI keyboard or other such device.

Chap. 10

Using the XV-5080 as a General MIDI Sound Module

The XV-5080 features a **GM mode (GM2)**—a convenient way to play back or create GM score data (music files for General MIDI sound module). You're able to play back commercial GM score data releases and even modify various parameter settings for enhanced musical expression.

Entering GM Mode

Basically GM mode is similar to a special kind of Performance in which a General MIDI System Rhythm Set is assigned to Part 10, and General MIDI System Patches are assigned to other Parts.

But however, you can't store GM mode settings in user memory.

```
GM PLAY            Part 1 Ch= 1        CHO REV EQ  L
                           Rx: 000 0000 0000 0000

GM:001 Piano 1

              Category
              PNO(AC.Piano    )
       Control   Part   MIDI   Effects   Info
```

The GM PLAY page shows a Patch or Rhythm Set assigned to each Part.

Each time you enter GM mode, the GM Drum Set is assigned to Part 10, and Piano 1 is assigned to other Parts. You can also select other GM Patches and GM Drum Sets for each Part to match the performance.

1. Press [GM] in MODE to call up the GM PLAY page.

When you switch the XV-5080 into GM mode, the sound generator initializes itself for basic GM System settings.

2. To change the current Part, press [◄] or [►].

3. To change the GM Patch or GM Rhythm Set assigned to the Part, perform the same procedure as you usually do when you select a Patch or Rhythm Set.

Initializing the Sound Generator for General MIDI System Basic Settings

To play back a GM score correctly, the sound generator must first be initialized to basic GM system settings. The XV-5080's sound generator is initialized in the General MIDI settings.

- When Switching to GM Mode
- When it receives a GM System On message from an external MIDI device
- When a GM System On message is encountered in the song data being played back
- When the XV-5080's power is turned on.
- When you execute the GM Initialize function (p. 229).

Playing Back a GM Score

When the XV-5080 is in GM mode, it plays back GM scores correctly. But beyond this, the XV-5080 provides many extended features not defined in GM System specifications, and if you create music files using these extended features, your song may not play back correctly on other GM-compatible sound modules.

In addition, although the XV-5080 can also be compatible with the GS format by receiving a GS Reset MIDI message, Roland's Sound Canvas Series (including the SC-8850 and SC-8820) features a different sound module system and extended tone map, you may be unable to get MIDI data (GS music data) created especially for use only with the Sound Canvas series of devices to play back properly.

The beginning of a GM score normally contains a GM System On message. So if you play back a GM score starting in the top of a song, XV-5080 will switch itself to GM mode. But if you play back a GM score starting in the middle of a song, XV-5080 may not switch itself to GM mode, and the GM score may not play back correctly. So to be safe, it's recommended to manually set the XV-5080 to GM mode before playing back a GM score.

Muting a Specific Part

When you switch over to GM mode, all Parts will be set to receive MIDI messages. To turn off a specific Part so that it will not sound, set the Receive Switch to OFF for the Part.

First, press [RX] to make its indicator light.

At this time, the on/off setting of each Part will be shown by the indicators of PART SELECT [1/17]–[16/32]. Lit is on, and dark is off.

Press PART SELECT [1/17]–[16/32] to turn the Part on/off.

  * *In GM mode, [1-16/17-32] will be ignored.*

Turning Effects On/Off

```
GM PLAY            Part 1 Ch= 1        CHO|REV|EQ| ■
                                   ◀▶Rx:●000 0000 0000 0000
GM:001 Effects Sw
       ┌─────┐ ┌─────┐ ┌─────┐
       │ Off │ │ On  │ │ Off │
       └─────┘ └─────┘ └─────┘
       □ Cho    □ Rev    □ EQ
       Control
```
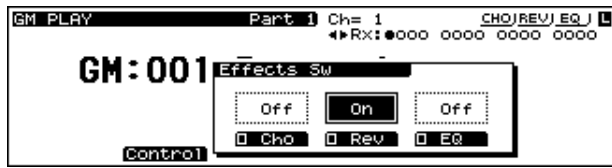
1. Press [EFFECTS ON/OFF].

2. Use [◀] or [▶] to select the effects device to be turned on or off.

3. Pressing [INC] turns it on and pressing [DEC] turns it off.

EQ

An equalizer lets you boost or cut specified frequency ranges of a sound to adjust the tone.

* Although you can add equalization to each of the XV-5080's output jacks, this operation turns the EQ for all of the outputs on and off simultaneously.

Chorus

Chorus is an effect that add fatness and breadth to the sound.

Reverb

Reverb is an effect that adds reverberation resembling that created when sounds are played in a hall.

Modifying GM Mode Settings

GM mode also offers parameters that you can modify for each Part. You can modify settings like effects, pan and level to customize a GM score playback to your preference.

When GM mode is initialized (p. 229), all these settings will be lost.

1. Press [GM] to enter GM mode.

2. Press [F2]–[F5] to choose the page group you want to set.

3. Press [▲]/[▼]/[◀]/[▶] to move the cursor to the parameter you want to set.

If you have selected a parameter display that can be set independently for each Part, the number of the Part selected for editing will be shown in the display. To select a different Part, use [1/17]–[16/32] to select a Part.

4. Use the VALUE dial or [INC] / [DEC] to modify the value.

* If you make a mistake when setting a parameter's value, or you don't like the change you have made, just press [UNDO] to restore the parameter to its original value.

5. If you wish to move to another page group, use [F2]–[F5] to choose a group.

* You can also move to another display group by holding down [SHIFT] and using [◀] or [▶].

6. Repeat steps 2–5 to complete a GM mode settings.

7. When you finish making settings, press [EXIT] to return to the GM PLAY page.

* You can also use the Palette display in the same manner when you edit in Performance mode (p. 135).

Settings for Playing Sounds ([F2 (Control)])

```
GM Control
Part: 1(PNO:Piano 1        )
Modify                    Key Mode
Cutoff Offset        +63  Mono/Poly         POLY
Resonance Offset     +63  Portament
Attack Time Offset   +63  Switch            OFF
Release Offset       +63  Time              127

        Control  Part   MIDI   Effect  Palette
```
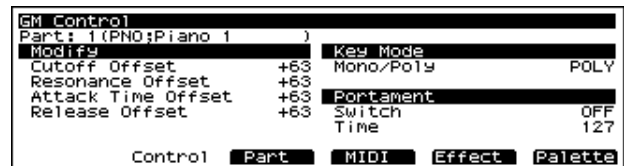
Modify (Part Modify)

You can determine how a Part will pay a sound by setting it to modify the sound's programmed cutoff frequency, Resonance, and TVF and TVA Envelope attack and release time settings.

Cutoff Offset (Part Cutoff Offset)

Range: -64– +63

Sets ratio by which the relative change in the TVF cutoff frequency value for the tone selected for the part is determined.

Resonance Offset (Part Resonance Offset)

Range: -64– +63

Sets ratio by which the relative change in the TVF Resonance value for the tone selected for the part is determined.

Attack Time Offset (Part Attack Time Offset)

Range: -64– +63

Sets ratio by which the relative change in the TVF/TVA envelope attack time value for the tone selected for the part is determined.

Release Offset (Part Release Time Offset)

Range: -64– +63

Sets ratio by which the relative change in the TVF/TVA envelope release time value for the tone selected for the part is determined.

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Key Mode

Mono/Poly (Part Mono/Poly)

Range: MONO/POLY

Specifies whether the Part will play polyphonically (POLY) or monophonically (MONO). The MONO setting is effective when playing a solo instrument Patch such as sax or flute.

Portament (Portamento)

Switch (Portamento Switch)

Specifies whether the portamento effect will be applied (ON) or not (OFF).

Time (Portamento Time)

Range: 0–127

When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.

The Patch Selection/Volume/Pan/Pitch Settings ([F3 (Part)])

```
GM Part
Part: 1(PNO:Piano 1     )
 Patch              Level & Pan     Tune
 Type      RHYTHM   Part Volume 127 Course      +48
 Number       128   Part Pan    L64 Fine        +50
 (PNO:Piano 1    )
 Bend Range
 Value          2
           Control  Part   MIDI   Effect  Palette
```

Patch (Part Patch)

You can select the Patch or Rhythm Set that will be assigned to each Part.

Type

Range: PATCH/RHYTHM

Selects the Patch (PATCH) or Rhythm Set (RHYTHM) the Part will play.

Number

Specifies the number of the Patches (1–256) or Rhythm Set (1–4) that is assigned to each Part.

Level&Pan

Sets the volume and pan for each Part.

Part Volume

Range: 0–127

Sets the volume of the Part.

Part Pan

Range: RANDOM/L63–63R

Specifies the stereo location of the sound of each Part. L63 is far left, 0 is center, and 63R is far right.

* *If you modify the settings for Part Volume or Part Pan, they will be reflected in the Part Information page.*

Tune

Sets the pitch for each Part.

Coarse (Coarse Tune)

Range: -48– +48

Adjusts the pitch of the Part's sound up or down in semitone steps over a range of +/-4 octaves.

Fine (Fine Tune)

Range: -50– +50

Makes fine adjustments in 1-cent steps to the pitch specified in Coarse Tune.

One cent is 1/100th of a semitone.

Bend Range

Value

Range: 0–24

Sets the amount of pitch change that will occur when you move the Pitch Bend lever.

The amount of change when the lever is tilted is set to the same value for both left and right sides.

Making MIDI Settings for Each Part ([F4 (MIDI)])

```
GM MIDI
Part: 1(PNO;Piano 1     )          Rx-Ch=  1
Part MIDI            Part MIDI
Receive Channel      1   Receive Switch      ON

Part Mute
Switch              OFF

        Control  Part   MIDI   Effects  Palette
```
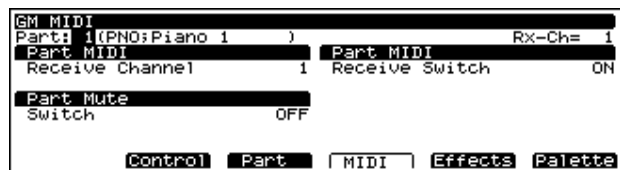
PART MIDI

Receive Channel (MIDI Channel)

Range: 1–16/OFF

Specifies the MIDI channel for each Part.

Part MIDI Receive Switch

Receive Switch

Sets whether each Part will respond to received MIDI messages (ON) or not (OFF) from external MIDI devices.

Part Mute

Switch (Part Mute Switch)

Turns muting of each part on (MUTE) or off (OFF).

Making Effects Settings ([F5 (Effects)])

Here, settings for the Chorus/Reverb effects used in GM mode are made.

When the effect name in the upper right of the screen appears in dashed lines, it indicates that the corresponding effect for the screen is set to OFF. Turn the corresponding effect on before you make settings (p. 225).

GM Effects General page ([F5 (Effects)] - [F1 (General)])

```
GM Effects General
                                        Output
Part
   1  127
Output      0         Cho 2
A                     Cho3
         40      0  Rev 4
(Part Select              LHall
General  Chorus  Reverb            ABCD
                                   12345678
                                   Palette
```
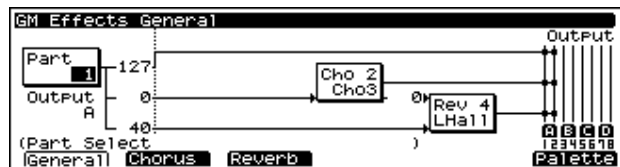
Part Output Assign

Range: A–D

Sets the output destination for each Part.

Part Dry Send Level

Range: 0–127

Sets the volume level of the Part.

Part Chorus Send Level

Range: 0–127

Adjusts the amount of Chorus for each Part.

Part Reverb Send Level

Range: 0–127

Adjusts the amount of Reverb for each Part.

Reverb Send Level

Range: 0–127

Determines the level of the signal sent from Chorus to Reverb.

Chorus Output Assign

Range: A–D

Sets the output destination for Chorus.

Reverb Output Assign

Range: A–D

Sets the output destination of the reverb sound.

GM Effects Chorus page ([F5 (Effects)] - [F2 (Chorus)])

Here, settings for the chorus effect used in GM mode are made.

In GM mode, the Chorus effect settings for the GM Patch assigned to each Part will be ignored (except for the Send Level parameter).

```
GM Effects Chorus
Type: 2(CHORUS 3       )
Chorus
Rate              3   Feedback        8
Depth            19

General  Chorus   Reverb
```
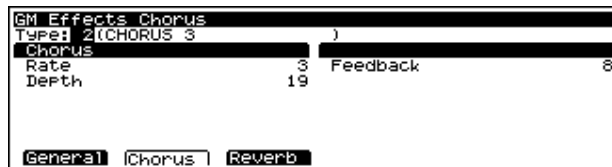
Type (Chorus Type)

Selects the type of Chorus.

Available Settings:

CHORUS 1–4: Chorus 1–4

FB CHORUS: Feedback Chorus

FLANGER: Flanger

Rate (Chorus Rate)

Range: 0–127

Sets the modulation speed of the Chorus.

Depth (Chorus Depth)

Range: 0–127

Adjusts the modulation depth for the Chorus.

Feedback (Chorus Feedback Level)

Range: 0–127

Adjusts the amount of chorus sound that is returned (fed back) to the chorus. Higher settings will result in a more intense effect.

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GM Effects Reverb page ([F5 (Effects)] - [F3 (Reverb)])

GM mode reverb settings are made here.

In GM mode, the reverb effect settings for the GM Patch assigned to each Part will be ignored (except for the Send Level parameter).

```
GM Effects Reverb
Type: 4(LARGE HALL      )
 Reverb
  Time                 64


 General  Chorus  Reverb
```
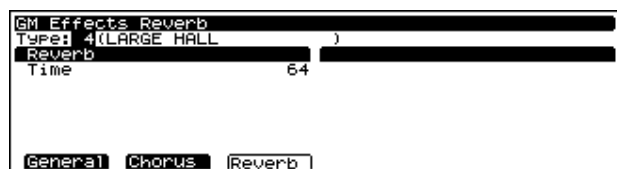
Type (Reverb Type)

Selects the type of Reverb.

Available Settings:

SMALL ROOM: Reverb obtained in a small sized room.

MEDIUM ROOM: Reverb obtained in a somewhat larger room.

LARGE ROOM: Large room reverb.

MEDIUM HALL: Reverb sound found in a medium sized concert hall.

LARGE HALL: Reverb sound found in a large concert hall.

PLATE: Plate reverb effect

Time (Reverb Time)

Range: 0–127

Adjusts the time over which the reverberation will continue.

Checking MIDI Information for Each Part ([F6 (Info)])

In this screen, you can check the reception status of the various types of MIDI messages, on an individual Part basis. This is a convenient way to check that the sound generator is responding correctly to messages from a keyboard or external MIDI controllers.

* *Use [▲] or [▼] to select a display page.*

Mod (Modulation Information)

Breath (Breath Information)

Foot (Foot Information)

Vol (Volume Information)

Pan (Pan Information)

Exp (Expression Information)

Hold (Hold 1 Information)

Bend (Pitch Bend Information)

Aftertouch (Aftertouch Information)

Voices (Voice Information)

Utility Functions in GM Mode

In the GM mode, you can initialize GM mode, and transmit GM mode settings, using the Utility functions.

Setting Procedure:

1. In GM mode, press [SYSTEM/UTILITY], getting the indicator to light.

The unit should now be in Utility mode.

2. Press [F6 (Menu)] to select the function.

3. Press F button.

4. Press [SYSTEm/UTILITY] to return to the GM PLAY page.

The functions of the UTIL 2 group can also be executed from GM mode. The operation is the same as in other modes.

Press [] or [] until the desired function is blinking, then press [ENTER].

The page for the function you've selected will appear.

Set parameters as necessary on each function's page.

To cancel the operation, press [EXIT]. To return to the GM PLAY page, press [UTILITY], extinguishing the indicator.

Press [ENTER] to execute the function.

Once the write operation is finished, "COMPLETED" will momentarily appear in the display, then you're returned to the GM PLAY page.

Initializing GM Settings (Init)

```
UTILITY Initialize
 Source
  Mode        GM2


  [ GM  [MIDIIn2]              [Init]
```

```
UTILITY Initialize MIDI IN2
 MIDI IN2
  Mode    GM OFF    MIDI IN1 ──────→ GM

                    MIDI IN2 ──────  GM
  [ GM  [MIDIIn2]              [Init]
```
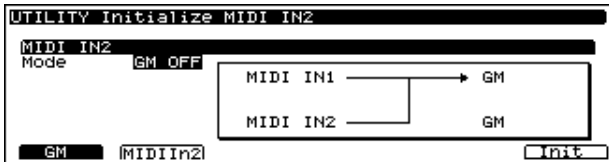
As GM Initialize initializes only GM mode settings, data stored in user memory will not be initialized. If you want to restore the factory values of all settings, carry out Factory Reset (p. 206).

With the XV-5080, you can operate two separate, 16-part GM sound generators, one for each of the two MIDI IN jacks, each of which can be can be initialized separately.

Initializing the GM Sound Generator Used in GM Mode (F1 (GM)]

Mode

GM: Instates the GM System basic settings.

GM2: Instates the GM2 System basic settings.

Initializing the GM Sound Generator Used Only for MIDI IN 2 (F2 (MIDI In2)]

Mode

GM: Instates the GM System basic settings.

GM2: Instates the GM2 System basic settings.

GM OFF: The MIDI IN 2-specific GM sound generator is turned off. When "GM OFF" is selected, the data for both MIDI IN 1 and 2 is received by the GM sound generator using GM mode.

After the parameters have been set, pressing [F6 (Init)] executes the initialization.

Transmitting GM Mode Settings (XFER)

```
UTILITY Data Transfer
 Source            Destination
  GM

   Control1      ▶   MIDI


                              [Trans]
```
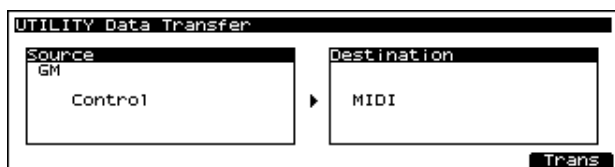
GM mode settings cannot be stored in user memory. If you wish to keep your GM mode settings, you can transmit them as MIDI messages to an external MIDI device, where they can be saved.

Once the external MIDI device is ready to record data, you can press [ENTER].

For details of the settings that are transmitted, refer to "MIDI Implementation" (p. 282).

If you do not want the settings of a specific Part to be transmitted, turn off the Receive Switch for that Part (p. 227).

Protecting the Internal Memory (PROTECT)

This feature helps prevent the accidental overwriting of USER memory to ensure that Patch, Performance or Rhythm Set data is not accidentally erased.

Internal (Internal Write Protect)

The Internal Write Protect setting prevents the Write operation from accidentally overwriting USER memory locations. When this is set ON, the data cannot be written. Data can be only written when Internal Write Protect is off. When the XV-5080's power is turned on, this setting is automatically turned on, – you will need to turn it off before writing data to the USER memory. It is also possible to turn this setting off during the Write procedure.

Exclusive (Exclusive Protect)

The Exclusive Protect setting prevents System Exclusive messages received from an external MIDI device from rewriting USER memory settings. When this feature is on, the data cannot be rewritten by System Exclusive messages. When it is off, data can be rewritten, even if the Internal Write Protect setting is set to ON.

1. Press [SYSTEM/UTILITY] to make its indicator blink.

    * *If the indicator is blinking, you are in UTILITY mode. Press [SYSTEM/UTILITY] once again to make its indicator light.*

2. Press [F6 (Menu)], then select "Menu1".

3. Press [F5 (Protect].

"User Memory Protect" screen appears.

```
Save                      ◀:Close ▶:Open
Drive:SCS┌Create New Folder───────────────┐
Path :\NE│   Name:[NEW    ]               │
  +SOUN│                               │
  <SAM│   ABCDEFGHIJKLMNOPQRSTUVWXYZ  │
  SOUN│   0123456789!#$%&'()-@^_`{}   │
      │                               │
 [Drive]│ [← Prev][Next →][Insert][Delete][OK]│
       └───────────────────────────────┘
```

4. Press [▲]/[▼] to move the cursor to the parameter you want to set.

5. Turn the VALUE dial or press the [INC]/[DEC] button to select the destination.

6. Press [EXIT] several times to return to the applicable PLAY page.

* *Even if the Internal Write Protect setting is "ON" (write prohibit), incoming System Exclusive messages can rewrite the User memory data if the Exclusive Protect setting is set to "OFF" (write permit).*

XV-5080

128 VOICES 8× EXPANSION / SAMPLE PLAYBACK

Appendices

Troubleshooting

If no sound can be heard, or if the unit does not perform as you expect, check the following points first. If this does not resolve the problem, contact your dealer or a nearby Roland service station.

* *If a message appears during operation, consult the following section (p. 235).*

No sound

Is the VOLUME lowered?
• Check the VOLUME knob, and the volume settings on the connected amp/mixer etc.

Have connections been made correctly?
• If there is sound in the headphones, it is possible that the connection cables are broken, or that the amp or mixer is malfunctioning. Check the connection cables and other devices once again.

Is the MIDI receive channel correct?
• Make sure that the MIDI transmit channel of the connected device matches the receive channel of theXV-5080.

Are the Tone, Patch and Part level settings excessively low?
• Check the level settings of each Tone, Patch and each Part.

Are Tones or Parts turned off?
• Check the on/off settings of each Tone and each Part.

Are the key range settings correct?
• Check the key range settings of each Tone and each Part.

Has the volume been lowered by volume/ expression messages received from an external device?
• The volume will return to normal when the power is turned on once again. When a Performance or Rhythm Set is selected, the reception status for each type of message can be viewed in the PART INFO page. (p. 166, p. 228)

Are the effect settings correct?
• Check settings such as Effect On/Off, and Effect Balance and Level.

Are the output destination settings correct?
• Check the Output Assign and MFX Output Assign settings.

Can't select Performances

Is [RX] on?
• When [RX] is on in the PERFORM PLAY page, [A]—[H] (PART SELECT [1/9]—[8/16]) act as buttons which turn Parts on/off. Turn [RX] off.

Can't select the Part for which to make settings

Is [RX] on?
• When [RX] is on in the various Performance setting pages, PART SELECT [1/9]—[8/16] function as buttons to switch each Part on/off. Turn [RX] off.

Pitch is wrong

Is the Master Tune setting correct?
• Check the setting. (p. 209)

Is Scale Tune selected?
• Check the setting. (p. 209)

Are the pitch settings for each Tone and each Part correct?
• 'Check each setting.

Have pitch bend messages received from an external device caused the pitch to "stick"?
• The pitch will return to normal when the power is turned on. If a Performance or Rhythm Set is selected, the PART INFO page allows you to check the reception status of each type of messages. (p. 166, p. 228)

Effects do not apply

Are [MFX], [CHORUS], and [REVERB] turned off?

- Press the corresponding button to turn on the indicator.

Are the various effect settings correct?

- If the send levels to each effect are at 0, effects will not apply. Check each setting.
- Even if the send level to each effect is above 0, effects will not apply if the MFX Output Level, Chorus Level, and Reverb Level are set to 0. Check each setting.
- If Output Assign is set to PATCH for each Part of the Performance, the sound will be output according to the Output Assign settings of the Patch (for each Tone) which is assigned to those Parts. This means that if the Output Assign of (each Tone in) the Patch is set to PATCH, the MFX sound will not be output.

MIDI messages are not received correctly

Are the receive channel and receive switch settings correct?

- Check the settings for the MIDI receive channel and the various switches for reception of MIDI messages.

Are the exclusive receive settings correct?

- In order for system exclusive messages to be received, the Device ID Number must match that of the transmitting device, and the System Exclusive receive switch must be on. (p. 212) Also, if you wish to rewrite data in the USER group, the System Exclusive message Protect Switch must be turned off as well. (p. 205)

Is the DEMO PLAY page displayed?

- When the DEMOPLAY page is displayed, MIDI messages received from an external device will be ignored.

Memory Card cannot be used

Has the Memory Card (SmartMedia) been initialized?

- An uninitialized Memory Card cannot be used. Perform the initialize operation. (p. 196)

Are you using a card which the XV-5080 does not support?

- It is not possible to read the contents of a card which is for the XV-5080. Also, it is not possible to write data to a Memory Card which was formatted on a device other than the XV-5080.

Song data does not playback correctly

Are you playing back from the middle of the song?

- The beginning of a GM score song contains a GM System On message. In some cases, a GM Score cannot be played back correctly unless this message is received.

Are you playing back GS format song data?

- Since the XV-5080 is a GM system compatible sound source, there may be cases in which GS format song data will not playback correctly.

The SCSI device is not being recognized.

Could you have turned on the devices in the wrong order?

- Read "Turning On the Power" in Quick Start (P. 12), then turn on the power to the devices in the correct order.

With some SCSI devices, it can take longer than usual before they are recognized

- Should this be the case, set a higher value for the SCSI Probe Time (p. 208).First, turn off the XV-5080's power, following the instructions in "Turning Off the Power" in Quick Start (P. 12). Then, following the instructions in "Turning On the Power" in Quick Start (P. 12), turn on

the power in the proper sequence. If the device is still not being recognized, even with the setting at the maximum value, then that SCSI device cannot be used with the XV-5080.

Is any SCSI ID being used for more than one device?

- If more than one device shares the same SCSI ID, then connected devices will not be correctly recognized. Follow the procedure described on p. 185 to set the SCSI IDs so that none is shared by any other device.

Commercial sampler data for other devices cannot be loaded.

- The XV-5080 is capable of loading S-700 Series and AKAI S-1000/3000 data. Other formats are not compatible. Please confirm the compatibility of any commercial data CD-ROM or other media you are using.

- AKAI S-1000/3000 data is converted when loaded to the XV-5080. There may be differences in the data compared to when it is played on the AKAI S-1000/3000.

There is no sound from the digital out, or there is noise.

- The XV-5080's digital out is not compatible with sampling frequencies (word clock) other than 44.1 or 48 kHz. When using the XV-5080 with the digital outs synchronized to an external device, check the sampling frequency (word clock) of the external device.

- When the sampling frequency (word clock) of the XV-5080's digital outs is synchronized to an external device, noise can sometimes be introduced as a result of the manner in which the cables carrying the signal have been run. Consequently, noise can be added to the audio signal, or in some cases, sound may not be heard. In such instances, you may be able to alleviate problems by rearranging the cables used to connect the devices.

Error Messages

If there has been a mistake in operation, or if the XV-5080 is unable to continue processing as you directed, an error message will appear in the display. Take the appropriate action for the displayed error message. This section gives the error messages in alphabetical order.

All Data on the Drive Will Be Lost.It Will Take a Long Time.Are You Sure?
Condition: When you execute a Full Format, all data on the disk will be lost. Also, a substantial length of time is required for a full format. Is it OK to execute the operation?
Action: To cancel the operation, press [F1 (CANCEL)]. To execute the full format, press [F6 (FORMAT)].

All Data on the Drive Will Be Lost.Are You Sure?
Condition: When you execute a Quick Format, all data on the disk will be lost. Is it OK to execute the operation?
Action: To cancel the operation, press [F1 (CANCEL)]. To execute the full format, press [F6 (FORMAT)].

Battery Low
Situation: The internal backup battery that is preserving the contents of user memory has run down.
Action: Consult your dealer or a nearby Roland service station to have the battery replaced.

Cannot Find Target File!
Condition: The performance specified for Auto Load was not found.
Action 1: Make sure that the drive you specified for Auto Performance Load is connected.
Action 2: In the case of a Zip disk, insert it into the drive.

Dest Disk Incorrect!
Cause: The media is of a format that cannot be written by the XV-5080.
Action: Prepare media of a format that the XV-5080 is able to write.

Disk Full!
Cause: The media is full.
Action: Either delete unneeded files (p. 198), or prepare another media.

Disk Not Ready!
Cause: The media is not ready.
Action: Insert another media.

DISK, Read Error!
Situation: An error occurred during read of the disk.
Action: This disk cannot be used.

DISK, Write Error!
Situation: An error occurred during writing to the disk.
Action: This disk cannot be used.

File Format Error
Situation: The XV-5080 cannot handle this file.

File I/O Error
Situation: It was not possible to save/load a file.
Action: Try the operation once again. If the same message appears, that file has been damaged. Delete the damaged file.

FILE NAME DUPLICATE, File (file name) Already Exists!
Situation: A folder with the same name already exists.
Action: Delete the file bearing the same name from the disk, and if overwriting and saving the data, merely save the file. If you do not want to delete the file with the same name from the disk, either save the file with a different name or save it to a different disk.

File Name (Folder, Volume)Format Error

Situation: A file name has not been assigned.

Action: Assign a file name.

File not Found

Situation: The specified file was not found.

Action: Insert the memory card that contains the specified file, and try the operation once again.

File Read Error!

Cause 1: The data is damaged, and cannot be loaded.

Action 1: Do not use this file.

Cause 2: A problem has occurred with the connected SCSI device.

Action 2: Check the connections and power supply of the SCSI device.

File Write Error!

Cause 1: The media is of a format to which the XV-5080 cannot write.

Action 1: Prepare a media that is of a format to which the XV-5080 is able to write.

Cause 2: A problem has occurred with the connected SCSI device.

Action 2: Check the connections and power supply of the SCSI device.

Folder Level Too Deep!

Cause: You have exceeded the allowable depth to which folders can be created.

Action: Create the folder at a shallower level of the folder hierarchy.

Format Completed!

Condition: Formatting has been completed.

Action: Press [F6 (ACCEPT)] to erase the message.

IMPROPER DISK, This Disk is not for the XV-5080.

Situation: The disk format is not one that can be used by the XV-5080.

Action: Exchange the disk with one in a format that the XV-5080 can use, or initialize the disk for use with the XV-5080.

Illegal Format!

Cause: Since the format of this file is incorrect, it cannot be loaded.

Action: Do not use this file.

Illegal PCM Wave! Cannot Load This Wave.

Cause: This file uses a type of compression that the XV-5080 is unable to read.

Action: Use the device that created the file to convert the data into an 8 bit or 16 bit wave.

Memory Card Full

Situation: There is insufficient space available on the memory card to save the data.

Action: Either insert a different memory card, or delete unnecessary data and try the operation once again.

Memory Card I/O Error

Situation: It is possible that the memory card has been scratched or otherwise damaged.

Action: If the memory card has been damaged, do not use that memory card. If the same error message appears repeatedly, consult your dealer or a nearby Roland service station.

Memory Card not Ready

Situation: A memory card is not inserted in the MEMORY CARD slot.

Action: Turn off the power, and insert a memory card.

Memory Card Write Protected

Situation: Since a write protect sticker is affixed to the memory card, data cannot be saved to the card bank.

Action: Remove the write protect sticker from the memory card.

Memory Error!

Cause: For some reason, wave memory cannot be read or written.

Action: The SIMM may be damaged. If the same message appears even after reinstallation, use a different SIMM.

Memory Full!

Cause: Due to insufficient wave memory, Reading is not possible.

Action: Delete unwanted samples from the XV-5080's memory (p. 197).

MIDI Buffer Full

Situation: Due to an inordinate volume of MIDI messages received, the XV-5080 has failed to process them properly.

Action: Reduce the amount of MIDI messages to be transmitted.

MIDI Communication Error

Situation: A problem has occurred with the MIDI cable connections.

Action: Check that MIDI cables are not broken or pulled out.

Number '****' Will Be Deleted. Are You Sure?

Condition: The sample at internal sample number '****' will be deleted. Is it OK to execute?

Action: To cancel the operation, press [F1 (CANCEL)]. To execute the deletion, press [F6 (DELETE)].

PASSWORD PROTECTED, This Zip Disk is Protected by Password!

Situation: This disk is write-protected by password. The write protection cannot be removed with the XV-5080.

Action: Either use the device with which the password protection was applied to remove the protection, or prepare a Zip disk that is not write-protected.

Path Duplicate!

Cause: You are attempting to write to the same hierarchical level.

Action: Change the writing destination.

Path Name Too Long!

Cause: The path name is too long.

Action: Shorten the names of each folder. Alternatively, move the entire folder to a shallower level of the hierarchy (p. 201).

* *The "path" indicates the hierarchical level at which the file is located. It is given together with the folder name.*

Performance (Patch/Partial/Sample) Full!

Situation: Although the specified data was loaded, the required free space for the Performance (Patch/Partial/Sample) is not available.

Action: Try loading again after deleting any unneeded Performances (Patches/Partials/Samples).

Receive Data Error

Situation: A MIDI message was received incorrectly.

Action: If the same error message is displayed repeatedly, there is a problem with the MIDI messages that are being transmitted to the XV-5080.

Appendices

Source Disk Incorrect!

Cause: The operation you are attempting to execute does not support this media.

Action: Do not select this media as the object of the operation.

This Will Clear the File(s)/Folder(s).Are You Sure?

Condition: The file(s) or folder(s) will be deleted from the disk. Is it OK to execute?

Action: To cancel the operation, press [F1 (CANCEL)]. To execute the operation, press [F6 (DELETE)].

Too Many Files!

Cause: The maximum number of files that can be created in a folder has been exceeded.

Action: Either delete unneeded files (p. 197), or write the file to a different folder.

Too Many Folders!

Cause: The maximum number of folders that can be created in a folder has been exceeded.

Action: Either delete unneeded folders (p. 201), or create the folder in a different folder.

Unformatted Memory Card

Situation: This memory card cannot be used by the XV-5080.

Action: Format the memory card on the XV-5080.

Unknown Disk Error!

Cause: A disk error of unknown causes has occurred.

Action: Contact your dealer or a nearby Roland service center for service.

User Memory Damaged

Situation: The data in user memory has been lost.

Action: Use the Factor Reset function (UTILITY/UTIL 2/FACTORY RESET) to initialize the memory to the factory settings.

User Memory Write Protected

Situation 1: The Internal parameter (UTILITY/UTIL 1/PROTECT/WRITE PROTECT) is turned ON.

Action 1: Turn the Internal parameter OFF.

Situation 2: The Exclusive parameter (UTILITY/UTIL 1/PROTECT/WRITE PROTECT) is turned ON, and Exclusive messages cannot be received.

Action 2: Turn the Exclusive parameter OFF.

User Performances (Patches/Rhythm) Full
Choose User location and OK to overwrite

Situation: Although the specified data was loaded, the required free space for the Performance (Patch/Rhythm) is not available.

Action: Either press [OK] and overwrite, or delete unneeded Performance (Patch/Rhythm) data and load again.

Write Protected!

Cause: The Zip disk is write protected.

Action: Provide a different media that can be written.

You Cannot Use This Device!

Cause: The operation you attempted to execute does not support this media

Action: Do not select this media for this operation.

About SCSI

Connecting a SCSI device

In order to load wave data from a sound library (a CD-ROM containing sounds or phrases) into the XV-5080, or to save data on a removable disk or hard disk, you will need to connect a separately available SCSI device.

SCSI devices are delicate. Incorrect connections or operation may not only cause the device to malfunction, but may even destroy the data on the disk, or permanently damage the SCSI device itself. Please read the owner's manual for your SCSI device together with this manual.

SCSI Devices That Can Be Used

The following types of SCSI device can be used with the XV-5080.

Zip Drive

This is a removable disk drive that features high-speed reading and writing of data, and is resistant to physical shock and dust.

MO Drive

This removable disk utilizes MO (magneto-optical) storage media, which uses both laser light and magnetism for high-precision data storage.

Hard Disk

This is the storage media with the fastest data read/write time. It has a high capacity, and is able to store an extremely large amount of data. However, since the disk cannot be removed, hard disks are not convenient when you need to exchange or transport data.

* *If you share a single hard disk between two XV-5080 units, never allow both XV-5080 units to read from, or write to the hard disk simultaneously. Doing so may damage the data or the connected devices.*

* *Do not share a single hard disk between the XV-5080 and a computer. Doing so may damage the data or the connected devices. Some computers automatically access the disk at regular intervals, which may cause both the XV-5080 and the computer to access the hard disk simultaneously.*

CD-ROM Drive

This is a device for loading wave data from a sound library.

What you need to know before making connections

Types of SCSI cables and SCSI connectors

The XV-5080 provides the SCSI connector (DB 25-pin type (SCSI-A)).
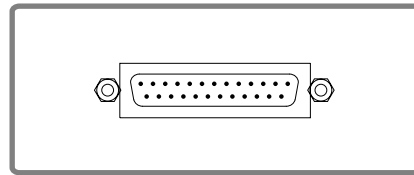
Use a SCSI cable to connect to XV-5080 to a SCSI device. Check the connector type and number of pins on the SCSI device you wish to connect, and purchase the appropriate cable.

Use a SCSI cable that is as short as possible, that is completely shielded, and that has an impedance compatible with the SCSI standard (110 ohms, +/-10%).

The total length of SCSI cables for all connected SCSI devices must not exceed 6.5 meters.

About SCSI Chains

A maximum of seven SCSI devices can be connected to the XV-5080. Use SCSI cables to connect SCSI devices as follows. SCSI connectors make no distinction between input and output, so you may use either one. This type of connection is called a SCSI chain or a daisy chain.

XV-5080   Disk Drive1   Disk Drive7
             (Zip Drive, etc) (CD-ROM Drive, etc)
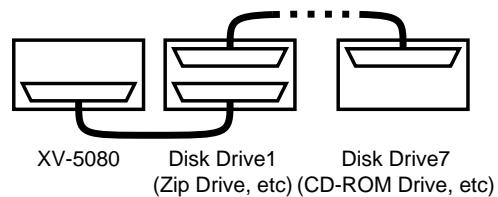
About Terminators

To prevent malfunctions caused by aliasing noise, a terminating resistor must be attached to the devices at either end of a SCSI chain. This is called the terminator. Some terminators are "internal," and can be switched on/off by a switch. Other terminators are "external," and can be attached to the SCSI connector. The XV-5080 features a built-in terminator.

As an external terminator, we recommend that you use an active terminator. In this case, if you are using a SCSI device that allows you to switch the terminator power on/off, be

sure to turn it on. For details on attaching an active terminator, refer to the owner's manual of your SCSI device.

*   *On some SCSI devices, the terminator switch is always on (i.e., the terminator is always active). Attach such devices at the end of the SCSI chain.*

*   *Do not "double" terminators. For example, do not attach an external terminator to a SCSI device that has an internal terminator.*

About SCSI ID Numbers

SCSI devices are distinguished by a SCSI ID number (0–7). Thus, when connecting two or more SCSI devices, you must set the SCSI ID number of each connected SCSI device so that they do not conflict. If any SCSI ID numbers conflict, the XV-5080 will not detect the SCSI devices correctly. When the XV-5080 is shipped, its SCSI ID number is set to "7." Set the SCSI ID numbers of the connected SCSI devices to a setting other than "7."

If it is not possible to set the SCSI ID number of a connected SCSI device to something other than "7," you will have to change the SCSI ID number of the XV-5080. To do so, rotate the ID knob located on the rear panel.

Making Connections

When you understand the material given in "What you need to know before making connections," refer to the connection examples and connect your SCSI device accordingly.

Be sure to turn off the power of all devices before you do any of the following three things.

*   Connect/disconnect a SCSI cable
*   Turn a terminator on/off
*   Set a SCSI ID number

*   *For the procedure of turning on the power, refer to p. 12.*

Connection Examples

Connecting one SCSI device

Terminator ON   Terminator ON

XV-5080   Disk Drive1

Connecting two or more SCSI devices

Terminator ON   Terminator OFF   Terminator ON

XV-5080   Disk Drive1   Disk Drive2
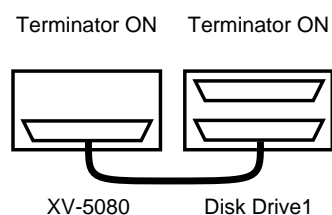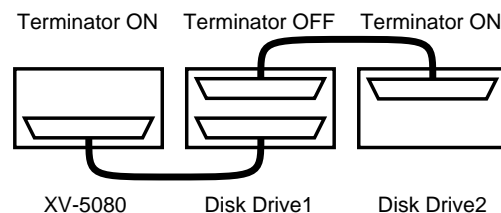
Parameter List

■Patch Parameters

PATCH Common General #1 ([PATCH]-[F1(Common)]-[F1(General)])(p. 127)

Group	Parameter		Value
Common	Name	Patch name	ASCII Characters (max. 12)
	Category	Patch category	(*1)
	Patch Type	Patch Type	4 TONES, MULTI-PARTIAL
	Level	Patch Level	0–127
	Pan	Patch Pan	L64–0–63R
	Output Assign	Patch output assign	MFX, OUTPUT A–D, INDIV 1–8, TONE
Octave & Tune	Octave shift	Octave shift	-3–0–+3
	Coarce Tune	Coarce tune	-48–+48
	Fine Tune	Fine tune	-50–+50
	Stretch Tune Depth	Stretch tune depth	OFF, 1, 2, 3
	Analog Feel	Analog feel depth	0–127

*1:NO ASSIGN, AC.PIANO, EL.PIANO, KEYBOARDS, BELL, MALLET, ORGAN, ACCORDION, HARMONICA, AC.GUITAR, EL.GUITAR, DIST.GUITAR, BASS, SYNTH BASS, STRINGS, ORCHESTRA, HIT&STAB, WIND, FLUTE, AC.BRASS, SYNTH BRASS, SAX, HARD LEAD, SOFT LEAD, TECHNO SYNTH, PULSATING, SYNTH FX, OTHER SYNTH, BRIGHT PAD, SOFT PAD, VOX, PLUCKED, ETHNIC, FRETTED, PERCUSSION, SOUND FX, BEAT&GROOVE, DRUMS, COMBINATION

PATCH Common General #2 ([PATCH]-[F1(Common)]-[F1(General)])(p. 128)

Group	Parameter		Value
Modify	Cutoff offset	Patch cutoff offset	-63–+63
	Resonance offset	Patch resonance offset	-63–+63
	Attack offset	Patch attack time offset	-63–+63
	Release offset	Patch release time offset	-63–+63
	Velo Sens offset	Patch velocity sens	-63–+63
Tempo	Clock Source	Patch clock source	PATCH, SYSETEM
	Tempo	Patch tempo	20–250
Voice priority	Mode	Voice priority mode	LAST, LOUDEST
One shot Mode	Switch	Switch	OFF, ON

PATCH Common Control ([PATCH]-[F1(Common)]-[F2(Control)])(p. 129)

Group	Parameter		Value
Key Mode	Key Assign	Key assign mode	POLY, MONO
	Legato Switch	Legato switch	OFF, ON
	Legato Retrigger	Legato retrigger switch	OFF, ON
Bender	Bend Range	Bend range up	0–+48
		Bend range down	-48–0
Portamento	Switch	Portament switch	OFF, ON
	Mode	Portament mode	NORMAL, LEGATO
	Type	Portament type	RATE, TIME
	Start	Portament start pitch	PITCH, NOTE
	Time	Portament time	0–127

PATCH Common Structure ([PATCH]-[F1(Common)]-[F3(Struct)])(p. 131)

Group	Parameter		Value
Tone 1 & 2	Type	Structure type1&2, 3&4	1–10
Tone 3 & 4	Type	Structure type1&2, 3&4	1–10
	Booster	Booster gain1&2, 3&4	0, +6, +12, +18 dB

PATCH Common TMT Key Range ([PATCH]-[F1(Common)]-[F4(K.Range)])(p. 132)

Group	Parameter		Value
	F.L	Key fade width lower	0–127
	K.L	Key range lower	C-1–UPPER
	K.U	Key range upper	LOWER–G9
	F.U	Key fade width upper	0–127

Parameter List

PATCH Common TMT Vel Range ([PATCH]-[F1(Common)]-[F5(V.Range)])(p. 133)

Group	Parameter		Value
TMT Velocity Control	Switch	TMT Velocity control switch	OFF, ON, RANDOM
TMT Matrix Control	Switch	TMT Matrix control switch	OFF, ON
TMT VEL RANG	L.F	Velocity fade width lower	0–127
	V.L	Velocity range lower	1–UPPER
	V.U	Velocity range upper	LOWER–127
	U.F	Velocity fade width upper	0–127

PATCH WG Parameter ([PATCH]-[F2(WG)]-[F1(WG Prm)])(p. 136)

Group	Parameter		Value
Wave	Group	Wave group	INT, XP-A–H, SMPL
	Number	Wave number(L, R)	0001–1083
	Gain	Wave gain	-6, 0, +6, +12 dB
	Tempo Sync	Wave tempo sync	OFF, ON
FXM	Switch	Frequency cross modulation switch	OFF, ON
	Color	Frequency cross modulation color	1–4
	Depth	Frequency cross modulation depth	0–16
Tone Delay	Mode	Tone delay mode	(*1)
	Time	Tone delay time	0–127(*2)

1:NORMAL, HOLD, KEY-OFF-NORMAL, KEY-OFF-DECAY

2:It can also be set in terms of notes.

♬₃(Sixty-fourth-note triplet), ♪ (Sixty-fourth note), ♬₃ (Thirty-second-note triplet), ♪ (Thirty-second note), ♪₃ (Sixteenth-note triplet), ♪. (Dotted thirty-second note),

♪ (Sixteenth note), ♪₃ (Eighth-note triplet), ♪. (Dotted sixteenth note), ♪ (Eighth note), ♩₃ (Quarter-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet),

♩. (Dotted quarter note), ♩ (Half note), ○₃ (Whole-note triplet), ♩. (Dotted half note), ○ (Whole note), ‖○‖₃ (Double-note triplet), ○ (Dotted whole note), ‖○‖ (Double note)

PATCH WG Pitch ([PATCH]-[F2(WG)]-[F2(Pitch)])(p. 138)

Group	Parameter		Value
Pitch	Coarse Tune	Coarse tune	-48–+48 semitone
	Fine Tune	Fine tune	-50–+50 cent
Random pitch	Depth	Random pitch depth	0–1200 cent(*1)
Keyfollow	Value	Pitch keyfollow	-200–+200(*2)

1:0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

2:-200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200

PATCH WG Pitch Envelope ([PATCH]-[F2(WG)]-[F3(Pch Env)])(p. 138)

Group	Parameter		Value
Pitch Envelope	Depth	Pitch envelope depth	-12–+12
	Time Keyfollow	Pitch envelope time keyfollow	-100–+100(*1)
	T1, T2, T3, T4	Pitch envelope time 1–4	0–127
	L0, L1, L2, L3, L4	Pitch envelope level 0–4	-63–+63
V-Sens	Amount	Pitch envelope velocity sens	-63–+63
	Time1	Pitch envelope time1 velocity sens	-63–+63
	Time 4	Pitch envelope time4 velocity sens	-63–+63

*1:-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100

PATCH WG Sample ([PATCH]-[F2(WG)]-[F4(Sample)])(p. 139)

Group	Parameter		Value
Sample	Original Key	Original Key	C-1–G9
	Loop Mode	Loop Mode	FORWARD, ONE SHOT, ALT, REV ONE, REVERSE
	Loop Tune	Loop Tune	-50–50
Start-Fine	---	Start Point -Start Point Fine	0–/0–255
Loop Point Start Fine	---	Loop Point Start Point -Loop Point Start Point Fine	0–/0–255
End-Fine	---	End Point - End Point Fine	0–/0–255

PATCH TVF Parameter ([PATCH]-[F3(TVF)]-[F1(TVF Prm)])(p. 140)

Group	Parameter		Value
TVF	Filter type	Filter type	OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	Cutoff freq	Cutoff frequency	0–127
	Resonance	Resonance	0–127
Resonance Velo	Sens	Resonance Velocity Sens	0–127
Cutoff keyfollow	Keyfollow	Cutoff frequency keyfollow	-200–+200(*1)
Cutoff Velo	Curve	TVF cutoff velocity curve	FIXED, 1–7
	Sens	Resonance Velocity Sens	-63–+63

1:-200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200

PATCH TVF Envelope ([PATCH]-[F3(TVF)]-[F2(TVF Env)])(p. 142)

Group	Parameter		Value
TVF Envelope	Depth	TVF envelope depth	-63–+63
	Time Keyfollow	TVF envelope time keyfollow	-100–+100(*1)
	T1, T2, T3, T4	TVF envelope time 1, 2, 3, 4	0–127
	L0, L1, L2, L3, L4	TVF envelope level 0, 1, 2, 3, 4	0–127
Velo Sens	Amount	TVF envelope velocity amount	-63–+63
	Time 1	TVF envelope time1 velocity sens	-63–+63
	Time 4	TVF envelope time4 velocity sens	-63–+63
Velo Curve	Amount	TVF envelope velocity curve	FIXED, 1–7

*1:-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100

PATCH TVA Parameter ([PATCH]-[F4(TVA)]-[F1(TVA Prm)])(p. 143)

Group	Parameter		Value
TVA	Level	Level	0–127
	V-Curve	TVA envelope velocity curve	FIXED, 1–7
	V-Sens	TVA envelope velocity sens	-63–+63
Bias	Level	TVA Bias level	-100–+100(*1)
	Position	TVA Bias position	C-1–G9
	Direction	TVA Bias direction	LOWER, UPPER, LOWER&UPPER, ALL
Pan	Pan	Tone Pan	L64–0–63R
	Keyfollow	Tone Pan keyfollow	-100–+100(*1)
	Random	Tone Random pan depth	0–63
	Alternate	Tone Alternate pan depth	L63–0–63R

PATCH TVA Envelope ([PATCH]-[F4(TVA)]-[F2(TVA Env)])(p. 144)

Group	Parameter		Value
TVA Envelope	Time Keyfollow	TVA envelope time keyfollow	-100–+100(*1)
	T1, T2, T3, T4	TVA envelope time 1, 2, 3, 4	0–127
	L1, L2, L3	TVA envelope level 1, 2, 3	0–127
Velocity Sens	Time 1	TVA envelope time1 velocity sens	-63–+63
	Time 4	TVA envelope time4 velocity sens	-63–+63

1:-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100

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Parameter List

PATCH LFO&Ctrl LFO1, LFO2 ([PATCH]-[F5(LFO&CTL)]-[F1(LFO1)])(p. 145)

Group	Parameter		Value
Wave	Form	LFO form	SIN,TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H, CHAOS
	Offset	LFO offset	-100, -50, 0, +50, +100
Rate	Value	LFO rate	0–127(*1)
	Detune	LFO detune	0–127
Delay	Time	LFO delay time	0–127
	Keyfollow	LFO delay keyfollow	-100–+100
Fade	Mode	LFO fade mode	ON-IN, ON-OUT, OFF-IN, OFF-OUT
	Time	LFO fade time	0–127
Key Sync	Switch	LFO key sync switch	OFF, ON
Depth	Pitch	Pitch LFO depth1, 2	-63–+63
	TVF	TVF LFO depth 1, 2	-63–+63
	TVA	TVA LFO depth 1, 2	-63–+63
	Pan	Pan LFO depth1, 2	-63–+63

1:It can also be set in terms of notes.

♬₃(Sixty-fourth-note triplet), ♪ (Sixty-fourth note), ♬₃ (Thirty-second-note triplet), ♪ (Thirty-second note), ♪₃ (Sixteenth-note triplet), ♪. (Dotted thirty-second note), ♪ (Sixteenth note), ♪₃ (Eighth-note triplet), ♪. (Dotted sixteenth note), ♪ (Eighth note), ♩₃ (Quarter-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet), ♩. (Dotted quarter note), ♩ (Half note), o₃ (Whole-note triplet), ♩. (Dotted half note), o (Whole note), ⅡoⅡ3 (Double-note triplet), o. (Dotted whole note), ⅡoⅡ (Double note)

PATCH LFO&Ctrl #1 ([PATCH]-[F5(LFO&CTL)]-[F3(Control)])(p. 146)

Group	Parameter		Value
Matrix Control 1	Source	Control source1	(*1)
Destination	Destination	Control1 Destination1–4	(*2)
	Sns	Control1 sens1–4	-63–+63
	Tone	Tone select1–4	OFF, ON, R
Matrix Control 2	Source	Control source2	(*1)
Destination	Destination	Control2 Destination1–4	(*2)
	Sns	Control2 sens1–4	-63–+63
	Tone	Tone select1–4	OFF, ON, R

PATCH LFO&Ctrl #2 ([PATCH]-[F5(LFO&CTL)]-[F3(Control)])(p. 146)

Group	Parameter		Value
Matrix Control 3	Source	Control source3	(*1)
Destination	Destination	Control3 Destination1–4	(*2)
	Sns	Control3 sens1–4	-63–+63
	Tone	Tone select1–4	OFF, ON, R
Matrix Control 4	Source	Control source4	(*1)
Destination	Destination	Control4 Destination1–4	(*2)
	Sns	Control4 sens1–4	-63–+63
	Tone	Tone select1–4	OFF, ON, R

*1:OFF, CC01–95 (except 32), PITCH BEND, AFTERTOUCH, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3,SYS-CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PITCH ENV, TVF ENV, TVA ENV

*2:OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PAN, DRY LEVEL, CHORUS SEND, REVERB SEND, LFO1 PCH DEPTH, LFO2 PCH DEPTH, LFO1 TVF DEPTH, LFO2 TVF DEPTH, LFO1 TVA DEPTH, LFO2 TVA DEPTH, LFO1 PAN DEPTH, LFO2 PAN DEPTH, LFO1 RATE, LFO2 RATE, PIT ENV A-TIME, PIT ENV D-TIME, PIT ENV R-TIME, TVF ENV A-TIME, TVF ENV D-TIME, TVF ENV R-TIME, TVA ENV A-TIME, TVA ENV D-TIME, TVA ENV R-TIME, TMT, FXM DEPTH, MFX CTRL1, MFX CTRL2, MFX CTRL3, MFX CTRL4

PATCH LFO&Ctrl Control Sw ([PATCH]-[F5(LFO&CTL)]-[F4(Ctrl Sw)])(p. 147)

Group	Parameter		Value
MIDI Rx Switch	Bender Sw	Recieve pitch bend switch	OFF, ON
	Expression Sw	Recieve expression switch	OFF, ON
	Hold-1 Sw	Recieve hold-1 switch	OFF, ON
	Redamper	Recieve redamper switch	OFF, ON
	Pan Mode	Recieve pan mode switch	CONTINUOUS, KEY-ON
	Tone Env Mode	Envelope mode	NO SUSTAIN, SUSTAIN

PATCH Effects General ([PATCH]-[F6(Effects)]-[F1(General)])(p. 25)

Group	Parameter	Value
	Patch Output Assign	MFX, A–D, 1–8, TONE
	Tone Output Assign	MFX, OUTPUT A–D, INDIV1–8
	Tone Dry Send Level	0–127
	Tone Chorus Send Level	0–127
	(non MFX/MFX)	
	Tone Reverb Send Level	0–127
	(non MFX/MFX)	
	MFX Type	0–90
	MFX Dry Send Level	0–127
	MFX Chorus Send Level	0–127
	MFX Reverb Send Level	0–127
	Chorus Type	OFF, Chrus, Delay
	Chorus Output Select	MAIN, REV, M+R
	Chorus Level	0–127
	Reverb Type	OFF, Revrb, Room, Hall, Plate
	Reverb Level	0–127
	MFX Output Assign	A, B, C, D
	Chorus Output Assign	A, B, C, D
	Reverb Output Assign	A, B, C, D

PATCH Effects MFX Control ([PATCH]-[F6(Effects)]-[F2(MFX Prm)])(p. 26)

* Refer to MFX Parameters (p. 41)

PATCH Effects MFX Control ([PATCH]-[F6(Effects)]-[F3(MFX Ctl)])(p. 26)

Group	Parameter		Value
MFX CTRL	Source	MFX Control Source 1, 2, 3, 4	(*1)
	Destination	MFX Control Destination 1, 2, 3, 4	(*2)
	Sens	MFX Control Sens 1, 2, 3, 4	-63–+63

*1: OFF, CC01–95 (except 32), PITCH BEND, AFTERTOUCH, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3, SYS-CTRL4
*2: Refer to MFX Parameters (p. 41)

PATCH Effects Chorus ([PATCH]-[F6(Effects)]-[F4(Chorus)])(p. 27)

* Refer to Chorus Parameters (p. 27)

PATCH Effects Reverb ([PATCH]-[F6(Effects)]-[F2(Reverb)])(p. 28)

* Refer to Reverb Parameters (p. 28)

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■ Multi Partial Patch Parameters

PATCH Common Split ([PATCH]-[F1(Common)]-[F3(Split)])(p. 148)

Group	Parameter		Value
Note	---	Note Number	A0–C8
No.	---	Partial Number	---
Partial Name	---	Partial Name	---
L.P	---	Lower Key Point	A0–C8
U.P	---	Upper Key Point	A0–C8
Mute	---	Mute Group	OFF, 1–31
Assign	---	Assign Type	Mute, Single
MIDI	---	MIDI Switch	OFF, Select, Set

PATCH WG Partial ([PATCH]-[F2(WG)]-[F1(WG Prm)])(p. 149)

Group	Parameter		Value
Partial	Name	Partial Name	ASCII Character (max 12 Characters)
	Course Tune	Partial Course Tune	-48–+48
	Fine Tune	Partial Fine Tune	-50–+50

PATCH WG SMT #1 ([PATCH]-[F2(WG)]-[F2(SMT)])(p. 150)

Group	Parameter		Value
No.	---	Sample Number	---
Name	---	Sample Name	---
Level	---	Sample Level	0–127
Pan	---	Sample Pan	L32–32R, RANDOM, Key+, Key-, LFO+, LFO-, ALT
C.T	---	Sample Course Tune	-48–+48
F.T	---	Sample Fine Tune	-50–+50
P.KF	---	Pitch Keyfollow	-16–+16

PATCH WG SMT #2 ([PATCH]-[F2(WG)]-[F2(SMT)])(p. 151)

Group	Parameter		Value
SMT Vel Control	Switch	SMT Velocity Control Switch	OFF, ON
L.F	---	Velocity Fade width Lower	0–127
L.F	---	Velocity Range Lower	1–Upper
L.F	---	Velocity Range Upper	Lower–127
U.F	---	Velocity Fade width Upper	0–127

PATCH WG Sample ([PATCH]-[F2(WG)]-[F3(SMT)]-[F3(Sample)])(p. 151)

Group	Parameter		Value
Sample	Original Key	Original Key	C-1–G9
	Loop Mode	Loop Mode	FORWARD, ONE SHOT, ALT, REV ONE, REVERSE
	Loop Tune	Loop Tune	-50–50
Start-Fine	---	Start Point - Start Point Fine	0-/0–255
Loop Point Start Fine	---	Loop Point Start Point - Loop Point StartPoint Fine	0-/0–255
End - Fine	---	End Point - End Point Fine	0-/0–255

PATCH TVF Parameter ([PATCH]-[F3(TVF)]-[F1(TVF Prm)])(p. 153)

Group	Parameter		Value
TVF	Filter type	Filter type	OFF, LPF, BPF, HPF
	Cutoff freq	Cutoff frequency	0–127
	Resonance	Resonance	0–127
Cutoff	Keyfollow Point	Cutoff frequency keyfollow Point	A0–C8
	Keyfollow	Cutoff frequency keyfollow	-63–+63
TVF Velo	Curve	TVF cutoff velocity curve	1–4
	Sens	Resonance Velocity Sens	0–127

PATCH TVF Envelope ([PATCH]-[F3(TVF)]-[F2(TVF Env)])(p. 154)

Group	Parameter		Value
TVF Envelope	Depth	TVF envelope depth	-63–+63
	Time Keyfollow	TVF envelope time keyfollow	-63–+63
	T1, T2, T3, T4	TVF envelope time 1, 2, 3, 4	0–127
	L0, L1, L2, L3	TVF envelope level 0, 1, 2, 3	0–127
Velo Sens	Amount	TVF envelope velocity sens	-63–+63
	Time 1	TVF envelope time1 velocity sens	-63–+63
	Time 4	TVF envelope time4 velocity sens	-63–+63
	Pitch Depth	TVF envelope pitch Depth	-63–+63

PATCH TVA Parameter ([PATCH]-[F4(TVA)]-[F1(TVA Prm)])(p. 155)

Group	Parameter		Value
TVA	Level	Partial Level	0–127
	Pan	Partial Pan	-64–+63
Level	Key follow Point	Key follow Point	A0–C8
	Key follow	Level Key follow	-63–+63
TVA Velo	Curve	TVA velocity curve	FIXED, 1–7
	Sens	TVA velocity curve sens	-63–+63

PATCH TVA Envelope ([PATCH]-[F4(TVA)]-[F2(TVA Env)])(p. 155)

Group	Parameter		Value
TVA Envelope	Time Keyfollow	TVA envelope time keyfollow	-63–+63
	T1, T2, T3, T4	TVA envelope time 1, 2, 3, 4	0–127
	L1, L2, L3	TVA envelope level 1, 2, 3	0–127
Velocity Sens	Time 1	TVA envelope time1 velocity sens	-63–+63
	Time 4	TVA envelope time4 velocity sens	-63–+63

PATCH LFO&Ctrl LFO ([PATCH]-[F5(LFO&Ctl)]-[F1(LFO1)])(p. 156)

Group	Parameter		Value
Wave	Form	LFO form	SIN,TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW
Rate	Value	LFO rate	0–127
	Detune	LFO detune	0–127
Delay	Time	LFO delay time	0–127
	Keyfollow	LFO delay keyfollow	-63–+63
Key Sync	Switch	LFO key sync switch	OFF, ON
Depth	Pitch	Pitch LFO depth1, 2	-63–+63
	TVF	TVF LFO depth 1, 2	-63–+63
	TVA	TVA LFO depth 1, 2	-63–+63
	Pan	Pan LFO depth1, 2	-63–+63

PATCH LFO&Ctrl Control #1 ([PATCH]-[F5(LFO&Ctl)]-[F2(Control)])(p. 157)

Group	Parameter		Value
Matrix Control 1	Source	Control source1	(*1)
Destination	Destination	Control1 Destination1–4	(*2)
	Sens	Control1 sens1–4	-63–+63
Matrix Control 2	Source	Control source2	(*1)
Destination	Destination	Control2 Destination1–4	(*2)
	Sens	Control2 sens1–4	-63–+63

PATCH LFO&Ctrl Control #2 ([PATCH]-[F5(LFO&Ctl)]-[F2(Control)])(p. 157)

Group	Parameter		Value
Matrix Control 3	Source	Control source3	(*1)
Destination	Destination	Control3 Destination1–4	(*2)
	Sens	Control3 sens1–4	-63–+63
Matrix Control 4	Source	Control source4	(*1)
Destination	Destination	Control4 Destination1–4	(*2)
	Sens	Control4 sens1–4	-63–+63

*1:OFF, CC01–95(except 32), PITCH BEND, AFTERTOUCH, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3,SYS-CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PITCH ENV, TVF ENV, TVA ENV

*2:OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PAN, DRY LEVEL, CHORUS SEND, REVERB SEND, LFO1 PCH DEPTH, LFO2 PCH DEPTH, LFO1 TVF DEPTH, LFO2 TVF DEPTH, LFO1 TVA DEPTH, LFO2 TVA DEPTH, LFO1 PAN DEPTH, LFO2 PAN DEPTH, LFO1 RATE, LFO2 RATE, PIT ENV A-TIME, PIT ENV D-TIME, PIT ENV R-TIME, TVF ENV A-TIME, TVF ENV D-TIME, TVF ENV R-TIME, TVA ENV A-TIME, TVA ENV D-TIME, TVA ENV R-TIME, TMT, FXM DEPTH, MFX CTRL1, MFX CTRL2, MFX CTRL3, MFX CTRL4

■Performance Parameters

PERFORMANCE Common ([PERFORMANCE]-[F1(Common)])(p. 160)

Group	Parameter		Value
Performance Name	Name	Performance Name	ASCII Character (12 characters max)
Solo Part Select	Number	Solo Part Number	OFF, PART1-32

PERFORMANCE Key Range ([PERFORMANCE]-[F2(K.Range)])(p. 161)

Group	Parameter		Value
	F.L	Key fade width lower	0–127
	K.L	Key range lower	C-1–UPPER
	K.U	Key range upper	LOWER–G9
	F.U	Key fade width upper	0–127

PERFORMANCE Part #1 ([PERFORMANCE]-[F3(Part)])(p. 162)

Group	Parameter		Value
Patch	Type	Part type	PATCH/RHYTHM
	Group	Patch group	USER, PR-A, PR-B, PR-C, PR-D, PR-E, PR-F, PR-G, GM XP-A–H, CD-A–H
	Number	Patch number	001–256
Level & Pan	Level	Part Level	0–127
	Pan	Part Pan	L64–0–63R
Bend Range	Value	Pitch bend range	0–24, PATCH
Tune	Octave	Octave shift	-3–+3
	Coarse	Coarse tune	-48–+48 semitone
	Fine	Fine tune	-50–+50 cent
Voice Reserve	---	---	0–63, FULL

PERFORMANCE Part # 2 ([PERFORMANCE]-[F3(Part)])(p. 163)

Group	Parameter		Value
Modify	Cutoff Offset	Part cutoff offset	-64–+63
	Resonance Offset	Part resonance offset	-64–+63
	Attack Time Offset	Part attack time offset	-64–+63
	Release Offset	Part release time offset	-64–+63
	Velocity Sens Offset	Part velocity sens offset	-64–+63
Key Mode	Mono/Poly	Part MONO/POLY	MONO, POLY, PATCH
	Legato Switch	Legato switch	OFF, ON, PATCH
Portamento	Switch	Portamento switch	OFF, ON, PATCH
	Time	Portamento Time	0–127, PATCH

PERFORMANCE MIDI #1 ([PERFORMANCE]-[F4(MIDI)])(p. 164)

Group	Parameter		Value
Part MIDI	Receive Channel	MIDI Receive Channel	1–16
Part Mute	Switch	Part Mute switch	OFF, MUTE
Part MIDI Receive Switch	MIDI Rx	Receive switch	OFF, ON
	MIDI IN 1	MIDI IN 1 Receive switch	OFF, ON
	MIDI IN 2	MIDI IN 2 Receive switch	OFF, ON

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PERFORMANCE MIDI #2 MIDI Filter ([PERFORMANCE]-[F4(MIDI)])(p. 165)

Group	Parameter		Value
MIDI Message	Program Change	Receive program change switch	OFF, ON
	Bank Select	Receive bank select switch	OFF, ON
	Pitch Bend	Receive bend switch	OFF, ON
	Channel Pressure	Receive channel pressure switch	OFF, ON
	Poly Key Pressure	Receive polyphonic key pressure switch	OFF, ON
	Modulation	Receive modulation switch	OFF, ON

PERFORMANCE MIDI #3 MIDI Filter ([PERFORMANCE]-[F4(MIDI)])(p. 165)

Group	Parameter		Value
MIDI Message	Volume	Receive volume switch	OFF, ON
	Pan	Receive pan switch	OFF, ON
	Expression	Receive expression switch	OFF, ON
	Hold-1	Receive hold-1 switch	OFF, ON
	Phase Lock	Phase lock	OFF, ON
	Velocity Curve	Velocity curve	OFF, 1, 2, 3, 4

PERFORMANCE Effects General #1 ([PERFORMANCE]-[F5(Effects)]-[F1(General)])(p. 31)

Group	Parameter	Value
	Part Output Assign	MFX, A–D, 1–8, PAT
	Part Output MFX Select	A–C
	Part Dry Send Level	0–127
	Part Chorus Send Level (non MFX/MFX)	0–127
	Part Reverb Send Level (non MFX/MFX)	0–127
	MFX Type	0–90
	MFX Source	PRF, P1–32
	MFX Dry Send Level	0–127
	MFX Chorus Send Level	0–127
	MFX Reverb Send Level	0–127
	Chorus Type	OFF, Chrus, Delay
	Chorus Source	PRF, P1–32
	Chorus Output Select	MAIN, REV, M+R
	Chorus Level	0–127
	Reverb Type	OFF, Revrb, Room, Hall, Plate
	Reverb Source	PRF, P1–32
	Reverb Level	0–127
	MFX Output Assign	A, B, C, D
	Chorus Output Assign	A, B, C, D
	Reverb Output Assign	A, B, C, D

PERFORMANCE Effects General #2 ([PERFORMANCE]-[F5(Effects)]-[F1(General)])(p. 31)

Group	Parameter		Value
Output Assign	Output	Output assign	MFX, A–D, 1–8, PAT
Output MFX Select	MFX	Output MFX select	MFX-A–C
MFX Source	MFX-A	MFX-A source	PERFORM, PART 1–16
	MFX-B	MFX-B source	PERFORM, PART 1–16
	MFX-C	MFX-C source	PERFORM, PART 1–16
MFX Type	MFX-A	MFX-A type	0–90
	MFX-B	MFX-B type	0–90
	MFX-C	MFX-C type	0–90

PERFORMANCE Effects MFX Control #2 ([PERFORMANCE]-[F5(Effects)]-[F3(MFX Ctl)])(p. 31)

Group	Parameter		Value
Source	Control 1	MFX control source 1	(*1)
	Control 2	MFX control source 2	(*1)
	Control 3	MFX control source 3	(*1)
	Control 4	MFX control source 4	(*1)
Destination	Control 1	MFX control Destination 1	(*2)
	Control 2	MFX control Destination 2	(*2)
	Control 3	MFX control Destination 3	(*2)
	Control 4	MFX control Destination 4	(*2)
Sens	Control 1	MFX control sens 1	-63–+63
	Control 2	MFX control sens 2	-63–+63
	Control 3	MFX control sens 3	-63–+63
	Control 4	MFX control sens 4	-63–+63
Performance MFX			
Ctrl Channel	MIDI Channel	MFX control channel	1–16, OFF
Receive MIDI IN1	Switch	Receive MIDI IN1 Switch	OFF, ON
Receive MIDI IN2	Switch	Receive MIDI IN2 Switch	OFF, ON

*1: OFF, CC01–95 (except 32), PITCH BEND, AFTERTOUCH, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3, SYS-CTRL4
*2: Refer to MFX Parameters (p. 41)

PERFORMANCE Effects Chorus ([PERFORMANCE]-[F5(Effect)]-[F4(Chorus)])(p. 33)

* Refer to Chorus Parameters (p. 33)

PERFORMANCE Effects Reverb ([PERFORMANCE]-[F5(Effect)]-[F5(Reverb)])(p. 34)

* Refer to Reverb Parameters (p. 34)

PERFORMANCE Part Information ([PERFORMANCE]-[F6 (Info)])(P. 166)

Group	Parameter		Value
INFO	Mod	Modulation information	0–127
	Breath	Breath information	0–127
	Foot	Foot information	0–127
	Volume	Volume information	0–127
	Pan	Pan information	L64–0–63R
	Exp	Expression information	0–127
	Hold	Hold1 information	0–127
	Bend	Pitch bend information	-128–+127
	Aft	Aftertouch information	0–127
	Voices	Voice information	0–64
	Sys 1	System control 1 information	0–127/-128–+127
	Sys 2	System control 2 information	0–127/-128–+127
	Sys 3	System control 3 information	0–127/-128–+127
	Sys 4	System control 4 information	0–127/-128–+127

Appendices

■Rhythm Set Parameters

RHYTHM Common ([RHYTHM]-[F1(Common)])(p. 169)

Group	Parameter		Value
Common	Name	Rhythm set name	ASCII Characters (max. 12)
	Level	Rhythm level	0–127
	Output Assign	Rhythm output assign	MFX, OUTPUT A–D, INDIV 1–8, TONE
Tempo	Clock Source	Rhythm clock source	RHYTHM, SYSETEM
	Tempo	Rhythm tempo	20–250
One Shot Mode	Switch	One Shot Mode	OFF, ON

RHYTHM WG Parameter ([RHYTHM]-[F2(Key WG)]-[F1(WG Prm)])(p. 171)

Group	Parameter		Value
Rhythm Tone	----	Tone name	ASCII Characters (max. 12)
	Tempo Sync	Wave tempo sync	OFF, ON
Wave	Group	Wave group	INT, XP-A–H, SAMPLE
	L, R	Wave number(L, R)	1–****
Gain&Level	Gain	Wave gain	-6, 0, 6, 12 dB
	Level	Level	0–127
Pan	Value	Value	L64–0–63R
	Random	Random pan switch	OFF, ON
	Alternate	Alternate pan switch	OFF, ON
Tune	Course	Course Tune	-48–+48
	Fine	Fine Tune	-50–+50
FXM	Switch	FXM switch	OFF, ON
	Color	FXM color	1–4
	Depth	FXM depth	0–16

RHYTHM WG Pitch ([RHYTHM]-[F2(Key WG)]-[F2(Pitch)])(p. 173)

Group	Parameter		Value
Pitch	Coarse Tune	Coarse tune	C-1–G9
	Fine Tune	Fine tune	-50–+50 cent
Random Pitch	Depth	Random pitch depth	0–1200 cent(*1)

*1: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

RHYTHM WG Pitch Envelope ([RHYTHM]-[F2(Key WG)]-[F3(Pch Env)])(p. 173)

Group	Parameter		Value
Pitch Envelope	Depth	Pitch envelope depth	-12–+12
	L0	Pitch envelope level 0	-63–+63
	T1, T2, T3, T4	Pitch envelope time 1–4	0–127
	L1, L2, L3, L4	Pitch envelope level 1–4	-63–+63
Velocity Sens	Amount	Pitch envelope velocity sens	-63–+63
	Time1	Pitch envelope time 1 velocity sens	-63–+63
	Time 4	Pitch envelope time 4 velocity sens	-63–+63

RHYTHM WG WMT Vel Range ([RHYTHM]-[F2(Key WG)]-[F4(V.Range)])(p. 174)

Group	Parameter		Value
Velocity Control	Switch	Velocity Control Switch	OFF, ON, RANDOM
	L.F	Velocity fade width lower	0–127
	V.L	Velocity range lower	1–UPPER
	V.U	Velocity range upper	LOWER–127
	U.F	Velocity fade width upper	0–127

RHYTHM WG Sample ([RHYTHM]-[F2(Key WG)]-[F5(Sample)])(p. 174)

Group	Parameter		Value
Sample	Original Key	Original Key	C-1–G9
	Loop Mode	Loop Mode	FORWARD, ONE SHOT, ALT, REV ONE, REVERSE
	Loop Tune	Loop Tune	-50–50
Start-Fine	---	Start Point -Start Point Fine	0–/0–255
Loop Point Start Fine	---	Loop Point Start Point -Loop Point Start Point Fine	0–/0–255
End-Fine	---	End Point - End Point Fine	0–/0–255

RHYTHM TVF Parameter ([RHYTHM]-[F3(Key TVF)]-[F1(TVF Prm)])(p. 175)

Group	Parameter		Value
TVF FILTER	Type	Filter type	OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	Cutoff	Cutoff frequency	0–127
	Resonance	Resonance	0–127
TVF VELOCITY	V-Cutoff	TVF cutoff velocity sens	-63–+63
	V-Curve	TVF cutoff velocity curve	FIXED, 1–7
	V-Resonance	TVF resonance velocity sens	-63–+63

RHYTHM TVF Envelope ([RHYTHM]-[F3(Key TVF)]-[F2(TVF Env)])(p. 177)

Group	Parameter		Value
TVF ENVELOPE	Depth	TVF Envelope depth	-63–+63
	V-Sens	TVF envelope velocity sens	-63–+63
	V-Curve	TVF envelope velocity curve	FIXED, 1–7
	V-T1	TVF envelope time 1 velocity sens	-63–+63
	V-T4	TVF envelope time 4 velocity sens	-63–+63
	L0	TVF envelope level 0	0–127
	T1, T2, T3, T4	TVF envelope time 1, 2, 3, 4	0–127
	L1, L2, L3, L4	TVF envelope level 1, 2, 3, 4	0–127

RHYTHM TVA Parameter ([RHYTHM]-[F4(Key TVA)]-[F1(TVA Prm)])(p. 177)

Group	Parameter		Value
TVA	Level	Level	0–127
	Pan	Pan	L64–0–63R
	Random	Random pan depth	0–63
	Alternate	Alternate pan depth	L63–0–63R
TVA VELOCITY	Velocity Sens	TVA envelope velocity sens	-63–+63
	Velocity Curve	TVA envelope velocity curve	FIXED, 1–7

RHYTHM TVA Envelope ([RHYTHM]-[F4(Key TVA)]-[F2(TVA Env)])(p. 178)

Group	Parameter		Value
TVA TIME ENV	V-T1	TVA envelope time 1 velocity sens	-63–+63
	V-T4	TVA envelope time 4 velocity sens	-63–+63
TVA ENVELOPE	T1–4	TVA envelope time 1–4	0–127
	L1–3	TVA envelope level 1–3	0–127

Appendices

RHYTHM Key Control ([RHYTHM]-[F5(Key Ctl)])(p. 179)

Group	Parameter		Value
CONTROL	Bend Range	Bend range	0–48
	Envelope Mode	Envelope mode	NO SUS, SUSTAIN
	Mute Group	Mute group	OFF, 1–31
	Assign Type	Assign type	MULTI, SINGLE
Rx MIDI	Expression	Receive expression switch	OFF, ON
	Pan	Receive pan control switch	CONTINUOUS, KEY-ON
	Hold-1	Receive hold-1 switch	OFF, ON

RHYTHM Effects General ([RHYTHM]-[F6(Effects)]-[F1(General)])(p. 37)

Group	Parameter	Value
	Rhythm Output Assign	MFX, A–D, 1–8, TONE
	Rhythm Tone Output Assign	MFX, A–D, 1–8
	Rhythm Tone Dry Send Level	0–127
	Rhythm Tone Chorus Send Level (non MFX/MFX)	0–127
	Rhythm Tone Reverb Send Level (non MFX/MFX)	0–127
	MFX Type	0–90
	MFX Dry Send Level	0–127
	MFX Chorus Send Level	0–127
	MFX Reverb Send Level	0–127
	Chorus Type	OFF, Chrus, Delay
	Chorus Output Select	MAIN, REV, M+R
	Chorus Level	0–127
	Reverb Type	OFF, Revrb, Room, Hall, Plate
	Reverb Level	0–127
	MFX Output Assign	A, B, C, D
	Chorus Output Assign	A, B, C, D
	Reverb Output Assign	A, B, C, D

RHYTHM Effects MFX ([RHYTHM]-[F6(Effects)]-[F2(MFX Prm)])(p. 37)

Group	Parameter	Value
(Refer to MFX parameters)		

RHYTHM Effects MFX Control ([RHYTHM]-[F6(Effects)]-[F3(MFX Ctl)])(p. 37)

Group	Parameter		Value
MFX CTRL	Source	MFX Control Source 1, 2, 3, 4	(*1)
	Destination	Destination 1, 2, 3, 4	(*2)
	Sens	MFX Control Sens 1, 2, 3, 4	-63–+63

*1: OFF, CC01–95 (except 32), PITCH BEND, AFTERTOUCH, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3, SYS-CTRL4
*2: Refer to MFX Parameters

RHYTHM Effects Chorus ([RHYTHM]-[F6(Effects)]-[F3(Chorus)])(p. 38)

* Refer to Chorus Parameters (p. 38)

RHYTHM Effects Reverb ([RHYTHM]-[F6(Effects)]-[F4(Reverb)])(p. 40)

* Refer to Reverb parameters (p. 40)

■GM Mode Parameters

GM Control ([GM]-[F2(Control)])(p. 225)

Group	Parameter		Value
Modify	Cutoff offset	Cutoff offset	-64–+63
	Resonance offset	Resonance offset	-64–+63
	Attack time offset	Attack time offset	-64–+63
	Release time offset	Release time offset	-64–+63
Key Mode	Mono/Poly	MONO/POLY	MONO, POLY
Portamento	Switch	Portament Switch	OFF, ON
	Time	Portament Time	0–127

GM Part ([GM]-[F3(Part)])(p. 227)

Group	Parameter		Value
Patch	Type	Part Type	PATCH, RHYTHM
	Number	GM patch number	001–256
Bend Range	Value	Pitch bend range value	0–24
Level & Pan	Part Volume	Part Volume	0–127
	Part Pan	Part Pan	RND, L63–0–63R
Tune	Coarse	Coarse tune	-48–+48 semitone
	Fine	Fine tune	-50–+50 cent

GM MIDI ([GM]-[F4(MIDI)])(p. 227)

Group	Parameter		Value
Part MIDI	Receive Channel	MIDI channel	1–16, OFF
Part Mute	Switch	Mute switch	OFF, MUTE
Part MIDI	Receive Switch	MIDI receive switch	OFF, ON

GM Effects General ([GM]-[F5(Effects)])(p. 227)

Group	Parameter	Value
	Part Output Assign	A–D
	Part Dry Send Level	0–127
	Part Chorus Send Level	0–127
	Part Reverb Send Level	0–127
	Chorus Type	Cho1–4, FBCho, Flang
	Chorus Output Assign	A–D
	Reverb Send Level	0–127
	Reverb Type	SRoom, MRoom, LRoom, MHall, LHall, Plate
	Reverb Output Assign	A–D

GM Effects Chorus ([GM]-[F5(Effect)]-[F2(Chorus)])(p. 227)

Group	Parameter		Value
GM Effect Chorus	Type	Chorus type	CHORUS 1–4, FB CHORUS, FLANGER
Chorus	Rate	Chorus rate	0–127
	Depth	Chorus depth	0–127
	Feedback	Chorus feedback level	0–127

GM Effects Reverb ([GM]-[F5(Effect)]-[F3(Reverb)])(p. 228)

Group	Parameter		Value
GM Effect Reverb	Type	Reverb type	SMALL ROOM, MEDIUM ROOM, LARGE ROOM, MEDIUM HALL, LARGE HALL, PLATE
Reverb	Time	Reverb time	0–127

Appendices

Parameter List

GM Effects General ([GM]-[F6(Info)])(p. 228)

Group	Parameter		Value
Infometion	Mod	Modulation information	0–127
	Breath	Breath information	0–127
	Foot	Foot information	0–127
	Volume	Volume information	0–127
	Pan	Pan information	L64–0–63R
	Exp	Expression information	0–127
	Hold	Hold1 information	0–127
	Bend	Pitch bend information	-128–+127
	Aft	Aftertouch information	0–127
	Voices	Voice information	0–64

■MFX Prameters

1:STEREO EQ(p. 44)

Parameter		Value
Freq/Gain		
LowFreq	Low frequency	200, 400 Hz
LowGain	Low gain	-15–+15 dB
Mid1 Freq	Middle 1 frequency	200–8000Hz(*1)
Mid1 Gain	Middle 1 gain	-15–+15 dB
Mid2 Freq	Middle 2 frequency	200–8000 Hz(*1)
Mid2 Gain	Middle 2 gain	-15–+15 dB
High Freq	High frequency	4000, 8000 Hz
High Gain	High gain	-15–+15 dB
Band Width		
Mid1 Q	Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0
Mid2 Q	Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0
Output		
Level	Output level	0–127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

2:OVERDRIVE(p. 44)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Amp simulator		
Type	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

3:DISTORTION(p. 45)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Amp simulator		
Type	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

4:PHASER(p. 45)

Parameter		Value
Phaser		
Manual	Manual	100-8000 Hz
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Resonance	Resonance	0-127
Mix Level	Mix level	0-127
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

5:SPECTRUM(p. 46)

Parameter		Value
Gain		
250Hz	250Hz gain	-15-+15 dB
500Hz	500Hz gain	-15-+15 dB
1000Hz	1000Hz gain	-15-+15 dB
1250Hz	1250Hz gain	-15-+15 dB
2000Hz	2000Hz gain	-15-+15 dB
3150Hz	3150Hz gain	-15-+15 dB
4000Hz	4000Hz gain	-15-+15 dB
8000Hz	8000Hz gain	-15-+15 dB
Band Width		
Q	Q	0.5, 1.0, 2.0, 4.0, 8.0
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

6:ENHANCER(p. 46)

Parameter		Value
Enhancer		
Sens	Sens	0-127
Mix Level	Mix level	0-127
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127

7:AUTO WAH(p. 47)

Parameter		Value
Auto Wah		
Filter type	Filter type	LPF, BPF
Sens	Sens	0-127
Manual	Manual	0-127
Peak	Peak	0-127
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Output		
Level	Output level	0-127

Appendices

8:ROTARY(p. 47)

Parameter		Value
Rotary		
Speed	Speed	SLOW, FAST
Woofer		
Slow Rate	Low frequency slow rate	0.05-10.00 Hz
Fast Rate	Low frequency fast rate	0.05-10.00 Hz
Acceleration	Low frequency acceleration	0-15
Level	Low frequency level	0-127
Separation		
	Separation	0-127
Tweeter		
Slow Rate	High frequency slow rate	0.05-10.00 Hz
Fast Rate	High frequency fast rate	0.05-10.00 Hz
Accelerationl	High frequency acceleration	0-15
Level	High frequency level	0-127
Output		
Level	Output level	0-127

9:COMPRESSOR(p. 48)

Parameter		Value
Compressor		
Attack	Attack	0-127
Sustain	Sustain	0-127
Post Gain	Post gain	0, +6, +12, +18 dB
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

10:LIMITER(p. 48)

Parameter		Value
Limiter		
Threshold	Threshold level	0-127
Ratio	Compression ratio	1.5:1, 2:1, 4:1, 100:1
Release	Release time	0-127
Post gain	Post gain	0, +6, +12, +18 dB
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

11:HEXA-CHORUS(p. 49)

Parameter		Value
Hexa Chorus		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Depth Dev	Depth deviation	-20-+20
Pre Delay	Pre delay time	0.0-100.0 ms
Pre Delay Dev	Pre delay deviation	0-127
Pan Dev	Pan deviation	0-127
Balance		
	Effect balance	D100:0W-D0:100W

Output

Level	Output level	0-127

12:TREMOLO CHORUS(p. 49)

Parameter		Value
Chorus		
Rate	Chorus rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Pre Delay	Pre delay time	0.0-100.0 ms
Tremolo		
Rate	Tremolo rate	0.05-10.00 Hz
Phase	Tremolo phase	0-180 degree
Separation	Tremolo separation	0-127
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

13:SPACE-D(p. 50)

Parameter		Value
Chorus		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Phase	Phase	0-180 degree
Pre Delay	Pre delay time	0.0-100.0 ms
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

14:STEREO CHORUS(p. 50)

Parameter		Value
Chorus		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Phase	Phase	0-180 degree
Pre Delay	Pre delay time	0.0-100.0 ms
Filter		
Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200-8000 Hz (*1)
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

15:STEREO FLANGER(p. 51)

Parameter		Value
Flanger		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Feedback	Feedback level	-98-+98%
Phase	Phase	0-180 degree
Pre Delay	Pre delay time	0.0-100.0 ms
Filter		
Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200-8000 Hz (*1)
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

16:STEP FLANGER(p. 51)

Parameter		Value
Flanger		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Feedback	Feedback level	-98-+98%
Phase	Phase	0-180 degree
Pre Delay	Pre delay time	0.0-100.0 ms
Step Rate		
	Step rate	0.10-20.00 Hz, note *1
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

17:STEREO DELAY(p. 52)

Parameter		Value
Delay		
Left	Delay time left	0.0-500.0 ms
Right	Delay time right	0.0-500.0 ms
HF Damp	HF damp	200-8000 Hz,
Feedback	Feedback level	-98-+98%
FBK Mode	Feedback mode	NORMAL, CROSS
Phase		
Phase Left	Feedback phase left	NORMAL, INVERT
Phase Right	Feedback phase right	NORMAL, INVERT BYPASS (*1)
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W

Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

18:MODULATION DELAY(p. 53)

Parameter		Value
Delay		
Left	Delay time left	0.0-500.0 ms
Right	Delay time right	0.0-500.0 ms
HF Damp	HF damp	200-8000 Hz,
Feedback	Feedback level	-98-+98%
FBK Mode	Feedback mode	NORMAL, CROSS
Modulation		
Rate	Rate	0.05-10.00 Hz
Depth	Depth	0-127
Phase	Phase	0-180 degree BYPASS (*1)
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Level		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

19:TRIPLE TAP DELAY(p. 54)

Parameter		Value
Delay		
Center	Delay time center	200-1000 ms, note *1
Left	Delay time left	200-1000 ms, note *1
Right	Delay time right	200-1000 ms, note *1
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Feedback	Feedback level	-98-+98%
Delay Level		
Center	Center level	0-127
Left	Left level	0-127
Right	Right level	0-127
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Level		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

20:QUADRUPLE TAP DELAY(p. 55)

Parameter		Value
Delay		
Delay 1	Delay time 1	200-1000 ms, note *1
Delay 2	Delay time 2	200-1000 ms, note *1
Delay 3	Delay time 3	200-1000 ms, note *1
Delay 4	Delay time 4	200-1000 ms, note *1
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Feedback	Feedback level	-98-+98%
Delay Level		
Level 1	Level 1	0-127
Level 2	Level 2	0-127
Level 3	Level 3	0-127
Level 4	Level 4	0-127
Balance		
	Effect balance	D100:0W-D0:100W
Level		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

21:TIME CONTROL DELAY(p. 56)

Parameter		Value
Delay		
Time	Delay time	200-1000 ms
Acceleration	Acceleration	0-15
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Feedback	Feedback level	-98-+98%
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

22:2VOICE PITCH SHIFTER(p. 56)

Parameter		Value
Pitch A		
Coarse	Coarse pitch	-24-+12 semitone
Fine	Fine pitch	-100-+100 cent
Pan	Output pan	L64-0-63R
Pre Delay	Pre delay time	0.0-500.0 ms
Pitch Shift		
Mode	Pitch shifter mode	1, 2, 3, 4, 5
Pitch B		
Coarse	Coarse pitch	-24-+12 semitone
Fine	Fine pitch	-100-+100 cent
Pan	Output pan	L64-0-63R
Pre Delay	Pre delay time	0.0-500.0 ms
Level Balance		
	Level balance	A100:0B-A0:100B

Balance		
	Effect balance	D100:0W-D0:100W
Level		
	Output level	0-127

23:FBK PITCH SHIFTER(p. 57)

Parameter		Value
Pitch		
Coarse	Coarse pitch	-24-+12 semitone
Fine	Fine pitch	-100-+100 cent
Pre Delay	Pre delay time	0.0-500.0 ms
Mode	Pitch shifter mode	1, 2, 3, 4, 5
Feedback	Feedback level	-98-+98%
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127
Pan	Output pan	L64-0-63R

24:REVERB(p. 58)

Parameter		Value
Reverb		
Type	Reverb type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2
Pre Delay	Pre delay time	0.0-100.0 ms
Time	Gate time	0-127
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

25:GATED REVERB(p. 58)

Parameter		Value
Reverb		
Type	Gated Reverb type	NORMAL, REVERSE, SWEEP1, SWEEP2
Pre Delay	Pre delay time	0.0-100.0 ms
Gate Time	Gate time	5-500 ms
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

26:OVERDRIVE→CHORUS(p. 59)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Pan	Pan	L64-0-63R
Chorus		
Pre Delay	Chorus pre delay time	0.0-100.0 ms
Rate	Chorus Rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Balance	Chorus balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

27:OVERDRIVE→FLANGER(p. 59)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Pan	Pan	L64-0-63R
Flanger		
Pre Delay	Flanger pre delay time	0.0-100.0 ms
Rate	Flanger rate	0.05-10.00 Hz
Depth	Flanger depth	0-127
Feedback	Flanger feedback level	-98-+98%
Balance	Flanger balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

28:OVERDRIVE→DELAY(p. 60)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Pan	Pan	L64-0-63R
Delay		
Time	Delay time	0.0-500.0 ms
Feedback	Delay feedback level	-98-+98%
HF Damp	Delay HF damp	200-8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

29:DISTORTION→CHORUS(p. 60)

The parameters are essentially the same as "26: OVERDRIVE→CHORUS," with the exception of the following two.

30:DISTORTION→FLANGER(p. 60)

The parameters are essentially the same as "27: OVERDRIVE→FLANGER," with the exception of the following two.

31:DISTORTION→DELAY(p. 60)

The parameters are essentially the same as "28: OVERDRIVE→DELAY," with the exception of the following two.

32:ENHANSER→CHORUS(p. 61)

Parameter		Value
Enhanser		
Sens	Enhancer sens	0-127
Mix Level	Enhancer mix level	0-127
Chorus		
Pre delay	Chorus pre delay time	0.0-100.0 ms
Rate	Chorus rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Balance	Chorus balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

33:ENHANSER→FLANGER(p. 61)

Parameter		Value
Enhanser		
Sens	Enhancer sens	0-127
Mix Level	Enhancer mix level	0-127
Flanger		
Pre Delay	Flanger pre delay time	0.0-100.0 ms
Rate	Flanger rate	0.05-10.00 Hz
Depth	Flanger depth	0-127
Feedback	Flanger feedback level	-98-+98%
Balance	Flanger balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

34:ENHANSER→DELAY(p. 62)

Parameter		Value
Enhanser		
Sens	Enhancer sens	0-127
Mix Level	Enhancer mix level	0-127
Delay		
Time	Delay time	0.0-500.0 ms
Feedback	Delay feedback level	-98-+98%
HF Damp	Delay HF damp	200-8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

35:CHORUS→DELAY(p. 62)

Parameter		Value
Chorus		
Pre Delay	Chorus pre delay time	0.0-100.0 ms
Rate	Chorus rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Balance	Chorus balance	D100:0W-D0:100W
Delay		
Time	Delay time	0.0-500.0 ms
Feedback	Delay Feedback level	-98-+98%
HF Damp	Delay HF damp	200-8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

36:FLANGER→DELAY(p. 63)

Parameter		Value
Flanger		
Pre Delay	Chorus pre delay time	0.0-100.0 ms
Rate	Chorus rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Feedback	Delay Feedback level	-98-+98%
Balance	Chorus balance	D100:0W-D0:100W
Delay		
Time	Delay time	0.0-500.0 ms
Feedback	Delay Feedback level	-98-+98%
HF Damp	Delay HF damp	200-8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

37:CHORUS→FLANGER(p. 63)

Parameter		Value
Chorus		
Pre Delay	Chorus pre delay time	0.0-100.0 ms
Rate	Chorus rate	0.05-10.00 Hz
Depth	Chorus depth	0-127
Balance	Chorus balance	D100:0W-D0:100W
Flanger		
Pre Delay	Flanger pre delay time	0.0-100.0 ms
Rate	Flanger rate	0.05-10.00 Hz
Depth	Flanger depth	0-127
Feedback	Flanger feedback level	-98-+98%
Balance	Flanger balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

38:CHORUS/DELAY(p. 64)

Refer to "35: CHORUS/DELAY."

39:FLANGER/DELAY(p. 64)

Refer to "36: FLANGER/DELAY."

40:CHORUS/FLANGER(p. 64)

Refer to "37: CHORUS/FLANGER."

41:STEREO PHASER(p. 65)

Parameter		Value
Phaser		
Type	Phaser type	1, 2
Mode	Mode	4-STAGE, 8-STAGE
Polarity	Polarity	INVERSE, SYNCHRO
Manual	Manual	0 – 127
Rate	Phaser rate	0.05 – 10.00 Hz , note *2
Depth	Phaser depth	0 – 127
Resonance	Phaser resonance	0 – 127
X-Feedback	Cross feedback level	-98 – +98 %
Mix Level	Mix level	0 – 127
Step Rate		
Switch	Switch	OFF, ON
Rate	Step rate	0.1–20.0 Hz , note *2
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

42:KEYSYNC FLANGER(p. 65)

Parameter		Value
Flanger		
PrDly	Pre delay time	0.0 – 100 ms
Rate	LFO rate	0.05 – 10.00 Hz , note *2
Depth	LFO depth	0 – 127
Fbk	Feedback	-98 – +98 %
Phase	Phase	0 – 180 degree
Filter		
Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200–8000 H(*1)
Step Rate		
Switch	Switch	OFF, ON
Rate	Step rate (*2)	0.1–20.0 Hz , note *2
Keysync		
Switch	Switch	OFF, ON
Thres	Keysync threshold	0 – 127
Phase	Keysync phase	0 – 360 degree
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Balance	D100:0W – D0:100W
Output		
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

43:FORMANT FILTER(p. 66)

Parameter		Value
Overdrive		
Switch	Switch	OFF, ON
Drive	Drive	0 – 127
Filter		
Vowel 1	Vowel 1	a, e, i, o, u
Vowel 2	Vowel 2	a, e, i, o, u
Rate	Rate	0.05 – 10.00 Hz , note *2
Depth	Depth	0 – 127
Manual	Manual	0 – 100
Keysync		
Switch	Keysync switch	OFF, ON
Thres	Keysync threshold	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

44:RING MODULATOR(p. 67)

Parameter		Value
Ring Modulator		
Freq	Frequency	0 – 127
Modulator	Modulator source	OFF, SOURCE, A, B, C, D
Modulator Monitor	Modulator monitor	OFF, ON
Sens	Sens	0 – 127
Polarity	Polarity	UP, DOWN
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
Level	Output level	0 – 127

45:MULTI TAP DELAY(p. 68)

Parameter		Value
Delay		
1	Delay time 1	0 – 1800 ms , note *2
2	Delay time 2	0 – 1800 ms , note *2
3	Delay time 3	0 – 1800 ms , note *2
4	Delay time 4	0 – 1800 ms , note *2
Feedback	Feedback	-98 – +98 %
HF Damp	HF Damp	200–8000 Hz, BYPASS(*1)
Level		
1	Level 1	0 – 127
2	Level 2	0 – 127
3	Level 3	0 – 127
4	Level 4	0 – 127
Pan		
1	Output pan 1	L64 – 63R
2	Output pan 2	L64 – 63R
3	Output pan 3	L64 – 63R
4	Output pan 4	L64 – 63R

EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Level		
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

46:REVERSE DELAY(p. 69)

Parameter		Value
Delay		
1	Delay time 1	0 – 900 ms , note *2
2	Delay time 2	0 – 900 ms , note *2
3	Delay time 3	0 – 900 ms , note *2
4	Delay time 4	0 – 900 ms , note *2
Feedback		
1	Feedback 1	-98 – +98 %
4	Feedback 4	-98 – +98 %
HF Damp		
1	HF Damp 1	200–8000 Hz, BYPASS(*1)
4	HF Damp 4	200–8000 Hz, BYPASS(*1)
Level		
1	Level 1	0 – 127
2	Level 2	0 – 127
3	Level 3	0 – 127
Pan		
1	Output pan 1	L64 – 63R
2	Output pan 2	L64 – 63R
3	Output pan 3	L64 – 63R
Threshold		
	Threshold level	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Appendices

47:SHUFFLE DELAY(p. 70)

Parameter		Value
Delay		
Time	Delay time	0 – 1800 ms , note *2
Shuffle Rate	Shuffle rate	0 – 100 %
Acceleration	Acceleration	0 – 15
Feedback	Feedback	-98 – +98 %
HF Damp	HF Damp	200–8000 Hz, BYPASS(*1)
Pan		
A	Pan A	L64 – 63R
B	Pan B	L64 – 63R
Balance		
	Level balance	A100:0B – A0:100B
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0E – D0:100W
Output		
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

48:3D DELAY(p. 70)

Parameter		Value
Delay		
Center	Delay time center	0 – 1800 ms, note *2
Left	Delay time left	0 – 1800 ms, note *2
Right	Delay time right	0 – 1800 ms, note *2
HF Damp	HF Damp	200–8000 Hz, BYPASS(*1)
Feedback	Feedback	-98 – +98 %
Delay Level		
Center	Level center	0 – 127
Left	Level left	0 – 127
Right	Level right	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain -15 – +15 dB	
Balance		
	Effect balance	D100:0E – D0:100W
Output		
Out	Output mode	SPEAKER, PHONES
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

49:3VOICE PITCH SHIFTER(p. 71)

Parameter		Value
Pch Coarse		
1-3	Coarse pitch 1-3	-24 – +12
Pch Fine		
1-3	Fine pitch 1-3	-100 – +100 [cent]
Pitch Shift		
Mode	Pitch shifter mode	1, 2, 3, 4, 5
Fbk		
1-3	Feedback level 1-3	-98 – +98 %
Pre Delay		
1-3	Pre Delay time 1-3	0.0 – 500 [ms]
Balance		
	Effect balance	D100:0E – D0:100W
Level		
1-3	Level 1-3	0 – 127
Pan		
1-3	Output pan 1-3	L64 – 63R
Output		
	Output level	0 – 127

50:LOFI COMPRESS(p. 72)

Parameter		Value
Lo-Fi		
Type	LOFI type	1 – 9
Pre Filter		
Type	Pre Filter type	1 – 6
Post Filter 1		
Type	Post Filter 1 type	1 – 6
Post Filter 2		
Type	Post Filter 2 type	OFF, LPF, HPF:(*1)
Cutoff	Cutoff Frequency	(*1)
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0E – D0:100W
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

1: Post Filter cutoff frequency:200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

51:LOFI NOISE(p. 72)

Parameter		Value
Lo-Fi		
Type	LOFI type	1 – 9
Post Filter		
Type	Post Filter Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*1)
Radio Noise		
Detune	Radio detune	0 – 127:0 – 127 (*2)
Level	Output level	0 – 127
Disk Noise		
Type	Disc noise type	(*3)
LPF	Disc noise LPF	(*4)
Level	Level	(*5)
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0E – D0:100W
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

*1: Post Filter cutoff frequency:200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

*2: Radio detune:Radio noise level

*3: Disc noise type:LP, EP, SP, RND

*4: Disc noise LPF:200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

*5: Disc noise level:0 – 127

52:SPEAKER SIMULATOR(p. 73)

Parameter		Value
Speaker		
Type	Speaker type	(*1)
Mic		
Setting	Mic setting	1, 2, 3
Level	Mic level	0 – 127
Direct Level	Direct level	0 – 127
Output		
Level	Output level	0 – 127

1: Small 1, Small 2, Middle, JC-120, Built In 1, Built In 2, Built In 3, Built In 4, Built In 5, BG Stack 1, BG Stack 2, MS Stack 1, MS Stack 2, Metal Stack, 2 Stack, 3 Stack

53:OVERDRIVE 2(p. 74)

Parameter		Value
Overdrive		
Drive	Drive	0 – 127
Tone	Tone	0 – 127
Amp simulator		
Amp Type	Amp. simulator type	OFF,ON:SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

54:DISTORTION 2(p. 74)

Parameter		Value
Distortion		
Drive	Drive	0 – 127
Tone	Tone	0 – 127
Amp simulator		
Amp Type	Amp. simulator type	OFF,ON:SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

55:STEREO COMPRESSOR(p. 75)

Parameter		Value
Compressor		
Attack	Attack time	0 – 127
Sustain	Sustain	0 – 127
Post Gain	Post gain	0, +6, +12, +18
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

56:STEREO LIMITER(p. 75)

Parameter		Value
Limiter		
Threshold	Threshold level	0 – 127
Ratio	Compression ratio	1.5:1, 2:1, 4:1, 100:1
Release	Release time	0 – 127
Post Gain	Post gain	0, +6, +12, +18
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

Appendices

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57:GATE(p. 76)

Parameter		Value
Gate		
Mode	Mode	GATE, DUCK
Attack Time	Attack time	0 – 127
Hold Time	Hold time	0 – 127
Release Time	Release time	0 – 127
Gate		
Key Key	Key	SOURCE, A, B, C, D
Threshold	Key threshold	0 – 127
Monitor	Key monitor	OFF, ON
Balance		
	Effect balance	D100:0E – D0:100W
Output		
Level	Output level	0 – 127

58:SLICER(p. 76)

Parameter		Value
Level 1, 2, 3, 4		
Beat 1– 4	Beat 1– 4	0 –127
Rate		
	Rate	0.05 – 10.0 , note *2
Attack		
	Attack	0 – 127
Reset		
Trigger	Trigger	OFF, Source, A, B, C, D
Threshold	Reset threshold	0 – 127
Monitor	Reset monitor switch	OFF, ON
Beat Change		
Mode	Mode	LEGATO, SLASH
Shuffle	Shuffle	0 – 127
Output		
Level	Output level	0 – 127

59:ISOLATOR(p. 77)

Parameter		Value
Boost/Cut		
Low	Level low	-60 – +4 dB
Mid	Level middle	-60 – +4 dB
High	Level high	-60 – +4 dB
Anti Phase Low		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Anti Phase Mid		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Low Boost		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Output		
Level	Output level	0 – 127

1: Anti phase middle switch:level

2: Anti phase low switch:level

60:3D CHORUS(p. 77)

Parameter		Value
Chorus		
Rate	LFO rate	0.05 – 10.00 Hz, note *1
Depth	LFO depth	0 – 127
Phase	Phase	0 – 180 degree
Pre Delay	Pre delay time	0.0 – 100 ms
Filter		
Type	Filter Type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200–8000 Hz (*1)
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
	Output mode	SPEAKER, PHONES
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

61:3D FLANGER(p. 78)

Parameter		Value
Flanger		
Rate	LFO rate	0.05 – 10.00 Hz, note *1
Depth	LFO depth	0 – 127
Feedback	Feedback	-98 – +98 %
Phase	Phase	0 – 180 degree
PrDly	Pre delay time	0.0 – 100 ms
Filter		
Type	Filter Type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200–8000 Hz (*1)
Step Rate		
Switch	Switch	OFF, ON
Rate	Step Rate (*2)	0.1–20.0 Hz, note *2
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
Out	Output mode	SPEAKER, PHONES
Level	Output level	0 – 127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

62:TREMOLO(p. 79)

Parameter		Value
Tremolo		
Mod Wave	Modulation wave	TRI, SQR, SIN, SAW1, SAW2
Rate	Rate	0.05 – 10.0 Hz, note *2
Depth	Depth	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

63:AUTO PAN(p. 79)

Parameter		Value
Auto Pan		
Mod Wave	Modulation wave	TRI, SQR, SIN, SAW1, SAW2
Rate	Rate	0.05 – 10.0 Hz, note *2
Depth	Depth	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

64:STEREO PHASER 2(p. 80)

Parameter		Value
Phaser		
Type	Type	1, 2
Mode	Mode	4 stage, 8 stage, 12 stage, 16 stage
Polarity	Polarity	INVERSE, SYNCHRO
Manual	Manual	0 - 127
Rate	Rate	0.05-10.00 Hz, note *2
Depth	Depth	0-127
Resonance	Resonance	0-127
X-Feedback	Cross Feedback	-98 - +98 [%]
Mix Level	Mix level	0-127
Step Rate		
Switch	Switch	OFF, ON
Rate	Step rate	0.1–20.0 Hz, note *2
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0-127

65:STEREO AUTO WAH(p. 81)

Parameter		Value
Auto Wah		
Filter type	Filter type	LPF, BPF
Sens	Sens	0-127
Manual	Manual	0-127
Peak	Peak	0-127
Rate	Rate	0.05-10.00 Hz, note *2
Depth	Depth	0-127
Polarity	Polarity	UP, DOWN
Phase	Phase	0 - 180

EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0-127

66:ST FORMANT FILTER(p. 81)

Parameter		Value
Overdrive		
Switch	Switch	OFF, ON
Drive	Drive	0 – 127
Filter		
Vowel 1	Vowel 1	a, e, i, o, u
Vowel 2	Vowel 2	a, e, i, o, u
Rate	Rate	0.05 – 10.00 Hz, note*2
Depth	Depth	0 – 127
Manual	Manual	0 – 100
Phase	Formant phase	0-180 degree
Keysync		
Switch	Keysync switch	OFF, ON
Thres	Keysync threshold	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Output		
Level	Output level	0 – 127

67:MULTI TAP DELAY(p. 82)

Parameter		Value
Delay		
1-4	Delay time 1-4	0-3000 ms, note *2
Feedback	Feedback level	-98-+98%
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Level		
1-4	Level 1-4	0-127
Pan		
1-4	Pan 1-4	L64-0-R63
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Level		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

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68:REVERSE DELAY 2(p. 82)

Parameter		Value
Delay		
1-4	Delay time 1-4	0-1500 ms, note *2
Feedback		
1, 4	Feedback level 1, 4	-98-+98%
HF Damp		
1, 4	HF damp 1, 4	200-8000 Hz, BYPASS (*1)
Level		
1-3	Level 1-3	0-127
Pan		
1-3	Pan 1-3	L64-0-R63
Threshold		
Value	Value	0-127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

69:SHUFFLE DELAY 2(p. 83)

Parameter		Value
Delay		
Time	Delay time	0-3000 ms, note *2
Shuffle Rate	Shuffle Rate	0-100%
Acceleration	Acceleration	0-15
Feedback	Feedback level	-98-+98%
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Delay Pan		
A, B	Pan A, B	L64-0-R63
Balance		
	Level Balance	A100:0B-A0:100B
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Output		
Level	Output level	0-127

1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

70:3D DELAY 2(p. 83)

Parameter		Value
Delay		
Center	Delay time center	0-3000 ms, note *2
Left	Delay time left	0-3000 ms, note *2
Right	Delay time right	0-3000 ms, note *2
HF Damp	HF damp	200-8000 Hz, BYPASS (*1)
Feedback	Feedback level	-98-+98%
Delay Level		
Center	Center level	0-127
Left	Left level	0-127
Right	Right level	0-127
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Balance		
	Effect balance	D100:0W-D0:100W
Level		
Out	Output mode	SPEAKER, PHONES
Level	Output level	0-127

71:ROTARY 2(p. 85)

Parameter		Value
Rotary		
Speed	Speed	SLOW, FAST
Brake	Brake	OFF,ON
Spread		
Value	Value	0-127
Woofer		
Slow	Woofer slow rate	0.05-10.00 Hz, note *2
Fast	Woofer fast rate	0.05-10.00 Hz, note *2
Level	Woofer level	0-127
Trans Up	Woofer transition up	0-127
Trans Down	Woofer transition down	0-127
Tweeter		
Slow	Tweeter slow rate	0.05-10.00 Hz, note *2
Fast	Tweeter fast rate	0.05-10.00 Hz, note *2
Level	Tweeter level	0-127
Trans Up	Tweeter transition up	0-127
Trans Down	Tweeter transition down	0-127
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127

72:ROTARY MULTI(p. 86)

Parameter		Value
Sequence		
OD/Dist	Overdrive/Distortion Switch	OFF,ON
Amp Sim	Amp Simulator Switch	OFF,ON
3 Band EQ	3 Band EQ Switch	OFF,ON
Rotary	Rotary Switch	OFF,ON
Overdrive/Distortion		
Type	Type	Overdrive, Distortion
Drive	Drive	0-127
Tone	Tone	0-127
Level	Level	0-127
Amp Simulator		
Type	Type	SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	EQ Low Gain	-15 - +15
Mid	EQ Mid Gain	-15 - +15
High	EQ High Gain	-15 - +15
Mid		
Mid Freq	EQ Mid Freq	(*1)
Mid Q	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Rotary		
Speed	Speed	SLOW, FAST
Separation	Separation	0-127
Woofer		
Slow	Low frequency slow rate	0.05-10.00 Hz, note *2
Fast	Low frequency fast rate	0.05-10.00 Hz, note *2
Accel	Low frequency acceleration	0-15
Level	Low frequency level	0-127
Tweeter		
Slow	High frequency slow rate	0.05-10.00 Hz, note *2
Fast	High frequency fast rate	0.05-10.00 Hz, note *2
Accel	High frequency acceleration	0-15
Level	High frequency level	0-127
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

73:KEYBOARD MULTI(p. 87)

Parameter		Value
Sequence		
Ring Mod	Ring Mod. Sw	OFF,ON
3 Band EQ	EQ Sw	OFF,ON
Pch Shft	Pitch Shifter Sw	OFF,ON
Phaser	Phaser Sw	OFF,ON
Delay	Delay Sw	OFF,ON
Ring Modulator		
Freq	Ring Mod. Freq	0 - 127
Balance	Ring Mod. Balance	D100:0W - D0:100W
EQ Gain		
Low	EQ Low Gain	-15 - +15
Mid	EQ Mid Gain	-15 - +15
High	EQ High Gain	-15 - +15
Mid		
Mid Freq	EQ Mid Freq	(*1)
Mid Q	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Pitch Shifter		
Mode	Mode	1, 2, 3, 4, 5
Coarse Tune	Coarse Tune	-24 - +12
Fine Tune	Fine Tune	-100 - +100
Delay	Delay	0.0 - 500
Feedback	Feedback	-98 - +98
Balance	Balance	D100:0W - D0:100W
Phaser		
Mode	Mode	4 stage, 8 stage
Manual	Manual	0 - 127
Rate	Rate	0.05 - 10.0, note *2
Depth	Depth	0 - 127
Resonance	Resonance	0 - 127
Mix Level	Mix Level	0 - 127
Delay		
Left Time	Left Time	0 - 3000, note *2
Right Time	Right Time	0 - 3000, note *2
Feedback	Feedback	-98 - +98
HF Damp	HF Damp	(*2)
Balance	Balance	D100:0W - D0:100W
Output		
Level		

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

Appendices

74:RHODES MULTI(p. 89)

Parameter		Value
Sequence		
Enhancer	Enhancer Switch	OFF, ON
Phaser	Phaser Switch	OFF, ON
Cho/Flg	Chorus/Flanger Switch	OFF, ON
Tre/Pan	Tremolo/Pan Switch	OFF, ON
Enhancer		
Sens	Sens	0 - 127
Mix Level	Mix Level	0 - 127
Phaser		
Mode	Mode	4 stage, 8 stage
Manual	Manual	0 - 127
Mix Level	Mix Level	0 - 127
Rate	Rate	0.05 - 10.0, note *2
Depth	Depth	0 - 127
Resonance	Resonance	0 - 127
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Rate	Rate	0.05 - 10.0, note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98
PreDly	PreDelay	0.0 - 100
Balance	Balance	D100:0W - D0:100W
Filter		
Type	Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*1)
Tremolo/Auto Pan		
Type	Type	TREMOLO, PAN
ModWave	ModWave	TRI, SQU, SIN, SAW1, SAW2
Rate	Rate	0.05 - 10.0, note *2
Depth	Depth	0 - 127
Output		
Level	Output level	0 – 127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

75:JD MULTI(p. 90)

Parameter		Value
Sequence		
Dist	Distortion Switch	OFF, ON
Phaser	Phaser Switch	OFF, ON
Spectrum	Spectrum Switch	OFF, ON
Enhancer	Enhancer Switch	OFF, ON
Distortion		
Type	Type	*1
Drive	Drive	0 - 100
Level	Level	0 - 100
Phaser		
Manual	Manual	50 - 15000 Hz
Mix Level	Mix Level	0 - 100
Rate	Rate	0.1 - 10.0 Hz
Depth	Depth	0 - 100
Resonance	Resonance	0 - 100
Spectrum		
Band Width	Band Width	1, 2, 3, 4, 5
Band Gain		
250Hz	Band1	-15 - +15
500Hz	Band2	-15 - +15
1000Hz	Band3	-15 - +15
2000Hz	Band4	-15 - +15
4000Hz	Band5	-15 - +15
8000Hz	Band6	-15 - +15
Enhancer		
Sens	Sens	0 - 100
Mix Level	Mix Level	0 - 100
Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

*1: MELLOW DRIVE, OVERDRIVE, CRY DRIVE, MELLOW DIST, LIGHT DIST, FAT DIST, FUZZ DIST

76:STEREO LOFI COMPRESS(p. 91)

Parameter		Value
Lo-Fi		
Type	LOFI type	1 – 9
Pre Filter		
Type	Pre Filter type	1 – 6
Post Filter 1		
Type	Post Filter 1 type	1 – 6
Post Filter 2		
Type	Post Filter 2 type	OFF, LPF, HPF:(*1)
Cutoff	Cutoff Frequency	(*1)
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
Level	Output level	0 – 127

1: Post Filter cutoff frequency:200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

77:STEREO LOFI NOISE(p. 92)

Parameter		Value
Lo-Fi		
Type	LOFI type	1 – 9
Hum		
Type	Hum Type	50, 60 [Hz]
LPF	Hum LPF	(*1)
Level	Hum Level	0 – 127
Post Filter		
Type	Post Filter Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*2)
Disc Noise		
Type	Disc noise type	WHITE, PINK
LPF	Disc noise LPF	(*1)
Level	Disc noise Level	0 – 127
Radio Noise		
Detune	Radio detune	0 – 127
Level	Radio Noise Level	0 – 127
Noise		
Type	White/Pink Noise Type	(*3)
LPF	White/Pink Noise LPF	(*1)
Level	White/Pink Noise Level	0 – 127
EQ Gain		
Low	Low gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Balance		
	Effect balance	D100:0W – D0:100W
Output		
Level	Output level	0 – 127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

78:GUITAR AMP SIMULATOR(p. 93)

Parameter		Value
Amp Simulator		
Switch	Switch	OFF, ON
Type	Pre Amp Type	(*1)
Amp Level		
Volume	Pre Amp Volume	0-127
Master	Pre Amp Master	0-127
Gain	Pre Amp Gain	LOW, MID, HIGH
Amp Tone		
Presence	Pre Amp Presence	0 - 127 (Match Drive -127 - 0)
Bright	Pre Amp Bright	OFF,ON
Bass	Pre Amp Bass	0 - 127
Middle	Pre Amp Middle	0 - 127
Treble	Pre Amp Treble	0 - 127
Speaker		
Switch	Switch	OFF, ON
Speaker Type	Speaker Type	(*2)
Mic		
Setting	Mic Setting	1,2,3
Level	Mic Level	0 – 127
Direct	Output level	0 – 127

Output		
Level	Output level	0 – 127
Pan	Output pan	L64 – 63R

*1: JC-120,Clean Twin,Match Drive, BG Lead,MS1959I,MS1959II, MS1959I+II,SLDN Lead,Metal 5150, Metal Lead,OD-1,OD-2 Turbo, Distortion,Fuzz

*2: Small1,Small2,Middle,JC-120, Built In 1,Built In 2,Built In 3, Built In 4, Built In 5, BG Stack 1,BG Stack 2, MS Stack 1,MS Stack 2, Metal Stack, 2 Stack, 3 Stack

79:STEREO OVERDRIVE(p. 94)

Parameter		Value
Overdrive		
Drive	Drive	0-127
Tone	Tone	0-127
Amp simulator		
Switch	Amp Switch	OFF, ON
Type	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127

80:STEREO DISTORTION(p. 94)

Parameter		Value
Distortion		
Drive	Drive	0-127
Tone	Tone	0-127
Amp simulator		
Switch	Amp Switch	OFF, ON
Type	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
EQ Gain		
Low	Low gain	-15-+15 dB
High	High gain	-15-+15 dB
Output		
Level	Output level	0-127

Appendices

Parameter List

81:GUITAR MULTI A(p. 95)

Parameter		Value
Sequence		
Comp	Cmp Switch	OFF,ON
OD/Dist	Overdrive/Distortion Switch	OFF,ON
Amp Sim	Amp Simulator Switch	OFF,ON
Delay	Delay Switch	OFF,ON
Cho/Flg	Chorus/FlangerF Switch	OFF,ON
Compressor		
Attack	Attack	0 - 127
Sustain	Sustain	0 - 127
Level	Level	0 - 127
Overdrive/Distortion		
Type	Type	OVERDRIVE, DISTORTION
Drive	Drive	0 - 127
Tone	Tone	0 - 127
Level	Level	0 - 127
Amp Simulator		
Type	Type	SMALL, BUILT-IN, 2STACK, 3STACK
Delay		
Left Time	Left Time	0 - 3000 [ms], note *2
Right Time	Right Time	0 - 3000 [ms], note *2
Feedback	Feedback	-98 - +98 [%]
HF Damp	HF Damp	(*1)
Balance	Balance	D100:0W - D0:100W
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Rate	Rate	0.05 - 10.0 [Hz], note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Pre Delay	Pre Delay	0.0 - 100 [ms]
Balance	Balance	D100:0W - D0:100W
Filter		
Type	Filter Type	OFF, LPF, HPF
Cutoff	Cutoff Freq	(*2)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

82:GUITAR MULTI B(p. 96)

Parameter		Value
Sequence		
Comp	Compressor Switch	OFF,ON
OD/Dist	Overdrive/Distortion Switch	OFF,ON
Amp Sim	Amp Simulator Switch	OFF,ON
3 Band EQ	3 Band EQ Switch	OFF,ON
Cho/Flg	Chorus/Flanger Switch	OFF,ON
Compressor		
Attack	Attack	0 - 127
Sustain	Sustain	0 - 127
Level	Level	0 - 127
Overdrive/Distortion		
Type	Type	OVERDRIVE, DISTORTION
Drive	Drive	0 - 127
Tone	Tone	0 - 127
Level	Level	0 - 127
Amp Simulator		
Type	Type	SMALL, BUILT-IN, 2STACK, 3STACK
EQ Gain		
Low	Low gain	-15 – +15 dB
Mid	Mid gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Mid		
Mid Freq	Mid Freq	(*1)
Mid Q	Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Pre Delay	Pre Delay	0.0 - 100 [ms]
Rate	Rate	0.05 - 10.0 [Hz], note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Balance	Balance	D100:0W - D0:100W
Filter		
Type	Filter Type	OFF, LPF, HPF
Cutoff	Cutoff Freq	(*2)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

83:GUITAR MULTI C(p. 98)

Parameter		Value
Sequence		
OD/Dist	Overdrive/Distortion Switch	OFF,ON
Wah	Wah Switch	OFF,ON
Amp Sim	Amp Simulator Switch	OFF,ON
Delay	Delay Switch	OFF,ON
Cho/Flg	Chorus/FlangerF Switch	OFF,ON
Overdrive/Distortion		
Type	Type	OVERDRIVE, DISTORTION
Drive	Drive	0 - 127
Tone	Tone	0 - 127
Level	Level	0 - 127
Wah		
Filter type	Filter type	LPF, BPF
Rate	Rate	0.05-10.00 Hz, note *2
Depth	Depth	0-127
Sens	Sens	0-127
Manual	Manual	0-127
Peak	Peak	0-127
Amp Simulator		
Type	Type	SMALL, BUILT-IN, 2STACK, 3STACK
Delay		
Left Time	Left Time	0 - 3000 [ms], note *2
Right Time	Right Time	0 - 3000 [ms], note *2
Feedback	Feedback	-98 - +98 [%]
HF Damp	HF Damp	(*1)
Balance	Balance	D100:0W - D0:100W
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Rate	Rate	0.05 - 10.0 [Hz], note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Pre Delay	Pre Delay	0.0 - 100 [ms]
Balance	Balance	D100:0W - D0:100W
Filter		
Type	Filter Type	OFF, LPF, HPF
Cutoff	Cutoff Freq	(*2)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

84:CLEAN GUITAR MULTI A(p. 99)

Parameter		Value
Sequence		
Comp	Compressor Sw	OFF, ON
3 Band EQ	3 Band EQ Sw	OFF, ON
Delay	Delay Sw	OFF, ON
Cho/Flg	Chorus/Flanger Sw	OFF, ON
Compressor		
Attack	Attack	0 - 127
Sustain	Sustain	0 - 127
Level	Level	0 - 127
EQ Gain		
Low	Low gain	-15 – +15 dB
Mid	Mid gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Mid		
Mid Freq	Mid Freq	(*1)
Mid Q	Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Delay		
Left Time	Left Time	0 - 3000 [ms], note *2
Right Time	Right Time	0 - 3000 [ms], note *2
Feedback	Feedback	-98 - +98 [%]
HF Damp	HF Damp	(*2)
Balance	Balance	D100:0E - D0:100E
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Pre Delay	Pre Delay	0.0 - 100 [ms]
Rate	Rate	0.05 - 10.0 [Hz]
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Balance	Balance	D100:0E - D0:100E
Filter		
Type	Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*1)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

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Parameter List

85:CLEAN GUITAR MULTI B(p. 101)

Parameter		Value
Sequence		
Wah	Wah Switch	OFF, ON
3 Band EQ	3 Band EQ Switch	OFF, ON
Delay	Delay Switch	OFF, ON
Cho/Flg	Chorus/Flanger Switch	OFF, ON
Wah		
Filter type	Filter type	LPF, BPF
Rate	Rate	0.05-10.00 Hz, note *2
Depth	Depth	0-127
Sens	Sens	0-127
Manual	Manual	0-127
Peak	Peak	0-127
EQ Gain		
Low	Low gain	-15 – +15 dB
Mid	Mid gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Mid		
Mid Freq	Mid Freq	(*1)
Mid Q	Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Delay		
Left Time	Left Time	0 - 3000 [ms], note *2
Right Time	Right Time	0 - 3000 [ms], note *2
Feedback	Feedback	-98 - +98 [%]
HF Damp	HF Damp	(*2)
Balance	Balance	D100:0W - D0:100W
Chorus/Flanger		
Select	Select	CHORUS,FLANGER
Pre Delay	Pre Delay	0.0 - 100 [ms]
Rate	Rate	0.05 - 10.0 [Hz], note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Balance	Balance	D100:0E - D0:100E
Filter		
Type	Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*1)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

*2: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

86:BASS MULTI(p. 102)

Parameter		Value
Sequence		
Comp	Compressor Switch	OFF, ON
OD/Dist	Overdrive/Distortion Switch	OFF, ON
Amp Sim	Amp Simulator Switch	OFF, ON
3 Band EQ	3 Band EQSwitch	OFF, ON
Cho/Flg	Chorus/Flanger Switch	OFF, ON
Compressor		
Attack	Attack	0 - 127
Sustain	Sustain	0 - 127
Level	Level	0 - 127
Overdrive/Distortion		
Type	Type	OVERDRIVE, DISTORTION
Drive	Drive	0 - 127
Tone	Tone	0 - 127
Level	Level	0 - 127
Amp Simulator		
Type	Type	SMALL, BUILT-IN, 2-STACK
EQ Gain		
Low	Low gain	-15 – +15 dB
Mid	Mid gain	-15 – +15 dB
High	High gain	-15 – +15 dB
Mid		
Mid Freq	Mid Freq	(*1)
Mid Q	Mid Q	0.5, 1.0, 2.0, 4.0, 8.0
Chorus/Flanger		
Type	Type	CHORUS,FLANGER
Rate	Rate	0.05 - 10.0 [Hz], note *2
Depth	Depth	0 - 127
Feedback	Feedback	-98 - +98 [%]
Pre Delay	Pre Delay	0.0 - 100 [ms]
Balance	Balance	D100:0W - D0:100W
Filter		
Type	Type	OFF, LPF, HPF
Cutoff	Cutoff Frequency	(*1)
Output		
Level	Level	0 - 127
Pan	Pan	L64 - 63R

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]

87:ISOLATOR 2(p. 104)

Parameter		Value
Boost/Cut		
Low	Level low	-60 – +4 dB
Mid	Level middle	-60 – +4 dB
High	Level high	-60 – +4 dB
Anti Phase Low		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Anti Phase Mid		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Post Filter		
Switch	Switch	OFF, ON
Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	0-127
Resonance	Resonance	0-127
Slope	Slope	-12, -24 dB
Gain	Gain	0-24 dB
Low Boost		
Switch	Switch	OFF, ON
Level	Level	0 – 127
Output		
Level	Output level	0 – 127

88:STEREO SPECTRUM(p. 104)

Parameter		Value
Band Gain		
250Hz	250Hz gain	-15-+15 dB
500Hz	500Hz gain	-15-+15 dB
1000Hz	1000Hz gain	-15-+15 dB
1250Hz	1250Hz gain	-15-+15 dB
2000Hz	2000Hz gain	-15-+15 dB
3150Hz	3150Hz gain	-15-+15 dB
4000Hz	4000Hz gain	-15-+15 dB
8000Hz	8000Hz gain	-15-+15 dB
Band Width		
Q	Q	0.5, 1.0, 2.0, 4.0, 8.0
Output		
Level	Output level	0-127

89:3D AUTO SPIN(p. 105)

Parameter		Value
Auto Spin		
Azimuth	Azimuth	(*1)
Speed	Speed	0.05 - 10.0 [Hz], note *2
Clockwise	Clockwise	-, +
Turn	Turn	OFF, ON
Output		
Out	Output mode	SPEAKER, PHONES
Level	Output level	0 – 127

*1, *2: L180, L168, L156, L144, L132, L120, L108, L96, L84, L72, L60, L48, L36, L24, L12, 0, R12, R24, R36, R48, R60, R72, R84, R96, R108, R120, R132, R144, R156, R168, R180

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Parameter		Value
Auto Spin		
Azimuth	Azimuth	(*1)
Output		
Out	Output mode	SPEAKER, PHONES
Level	Output level	0 – 127

*1: L180, L168, L156, L144, L132, L120, L108, L96, L84, L72, L60, L48, L36, L24, L12, 0, R12, R24, R36, R48, R60, R72, R84, R96, R108, R120, R132, R144, R156, R168, R180

note *1:

♪ (Sixteenth note), ♪₃ (Eighth-note triplet), ♪. (Dotted sixteenth note), ♪ (Eighth note), ♩₃ (Half-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet), ♩. (Dotted quarter note), ♩ (Half note),

note *2:

♬₃ (Sixty-fourth-note triplet), ♪ (Sixty-fourth note), ♪₃ (Thirty-second-note triplet), ♪ (Thirty-second note), ♪₃ (Sixteenth-note triplet), ♪. (Dotted thirty-second note), ♪ (Sixteenth note), ♪₃ (Eighth-note triplet), ♪. (Dotted sixteenth note), ♪ (Eighth note), ♩₃ (Quarter-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet), ♩. (Dotted quarter note), ♩ (Half note), ○₃ (Whole-note triplet), ♩. (Dotted half note), ○ (Whole note), ⊪⊪₃ (Double-note triplet), ○. (Dotted whole note), ⊪⊪ (Double note)

■System Parameters

SYSTEM General #1 ([SYSTEM/UTILITY]-[F1(General)])(p. 209)

Group	Parameter		Value
Setup	LCD Contrast	LCD contrast	1–10
	Patch Remain	Patch remain switch	OFF, ON
	Powerup Mode	Power up mode	LAST-SET, DEFAULT
	Character Style	Character Style	TYPE1–4
	Rhythm Edit Key	Rhythm edit key	PANEL, PANEL&MIDI
	SCSI Probe Time	SCSI probe time	1–10
Master	Level	Master level	0–127
	Tune	Master Tune	415.3–466.2Hz
	Key Shift	Key Shift	-24–+24 semitones
System Tempo	Clock Source	Clock source	INT, MID
	Tempo	System tempo	20–250

SYSTEM General #2 ([SYSTEM/UTILITY]-[F1(General)])(p. 211)

Group	Parameter		Value
Scale Tune	Switch	Scale tune switch	OFF, ON
PATCH SCALE	C–B	Scale tune C–B	-64–+63
KEY SCALE	C–B	Scale tune C–B	-64–+63

SYSTEM Output ([SYSTEM/UTILITY]-[F2(Outp&EQ)-[F2(Output)]])(p. 211)

Group	Parameter		Value
Digital Interface	Master Clock	Master Clock	INTERNAL/R-BUS/WORD CLOCK IN
	Master Freq	Master Frequency	44.1/48.0kHz
DIF Control	DIF-AT Clk Select	DIF-AT Clock select	R-BUS/ADAT/DA-88
Output Mix/Parallel	Mode	Mix/Parallel	MIX, PARALLEL
Output Gain	Gain	Output Gain	-12, -6, 0, +6, +12 dB

SYSTEM EQ ([SYSTEM/UTILITY]-[F2(Outp&EQ)-[F2(EQ)]])(p. 211)

Group	Parameter		Value
Output-A–D	L.F	Low Frequency	200/400Hz
	L.G	Low Gain	-15–+15
	H.F	High Frequency	2000/4000/8000Hz
	H.G	High Gain	-15–+15

SYSTEM MIDI ([SYSTEM/UTILITY]-[F3(MIDI)])(p. 211)

Group	Parameter		Value
MIDI Receive Ch	Perform Ctrl Ch	Performance control channel	1–16, OFF
	Patch/Rhy Rx Ch	Patch/Rhythm set receive channel	1–16
System Exclusive	Device ID	Device ID number	17–32
	Receive Sw	Receive exclusive switch	OFF, ON
MIDI Tx	Transmit Edit Data	Transmit edit data switch	OFF, ON
Stack	Mode	Stack mode	OFF, 2–8
	Number	Stack number	1–8
Rx Switch	Program Chg	Program Change	OFF, ON
	Bank Select	Receive bank select switch	OFF, ON
	GM System ON	Receive GM-ON exclusive switch	OFF, ON
	GM2 System ON	Receive GM2-ON exclusive switch	OFF, ON
	GS Reset	Receive GS Reset exclusive switch	OFF, ON

SYSTEM Control ([SYSTEM/UTILITY]-[F4(Control)])(p. 215)

Group	Parameter		Value
System Control 1-4	Source	System control assign 1-4	OFF, CC01–95(except 32), PITCH BEND, AFTERTOUCH

Waveform List

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
1	StGrand pA L	51	E.Piano 1C	101	RockOrg1 A R	151	Jazz Gtr B	201	Syn Gtr B
2	StGrand pA R	52	E.Piano 2A	102	RockOrg1 B L	152	Jazz Gtr C	202	Syn Gtr C
3	StGrand pB L	53	E.Piano 2B	103	RockOrg1 B R	153	LP Rear A	203	Harp 1A
4	StGrand pB R	54	E.Piano 2C	104	RockOrg1 C L	154	LP Rear B	204	Harp 1B
5	StGrand pC L	55	E.Piano 3A	105	RockOrg1 C R	155	LP Rear C	205	Harp 1C
6	StGrand pC R	56	E.Piano 3B	106	RockOrg2 A L	156	Rock lead 1	206	Harp Harm
7	StGrand fA L	57	E.Piano 3C	107	RockOrg2 A R	157	Rock lead 2	207	Pluck Harp
8	StGrand fA R	58	MK-80 EP A	108	RockOrg2 B L	158	Comp Gtr A	208	Banjo A
9	StGrand fB L	59	MK-80 EP B	109	RockOrg2 B R	159	Comp Gtr B	209	Banjo B
10	StGrand fB R	60	MK-80 EP C	110	RockOrg2 C L	160	Comp Gtr C	210	Banjo C
11	StGrand fC L	61	EP Hard	111	RockOrg2 C R	161	Comp Gtr A+	211	Sitar A
12	StGrand fC R	62	EP Distone	112	RockOrg3 A L	162	Mute Gtr 1	212	Sitar B
13	Ac Piano2 pA	63	Clear Keys	113	RockOrg3 A R	163	Mute Gtr 2A	213	Sitar C
14	Ac Piano2 pB	64	D-50 EP A	114	RockOrg3 B L	164	Mute Gtr 2B	214	E.Sitar A
15	Ac Piano2 pC	65	D-50 EP B	115	RockOrg3 B R	165	Mute Gtr 2C	215	E.Sitar B
16	Ac Piano2 fA	66	D-50 EP C	116	RockOrg3 C L	166	Muters	216	E.Sitar C
17	Ac Piano2 fB	67	Celesta	117	RockOrg3 C R	167	Pop Strat A	217	Santur A
18	Ac Piano2 fC	68	Music Box	118	Dist. Organ	168	Pop Strat B	218	Santur B
19	Ac Piano1 A	69	Music Box 2	119	Rot.Org Slw	169	Pop Strat C	219	Santur C
20	Ac Piano1 B	70	Clav 1A	120	Rot.Org Fst	170	JC Strat A	220	Dulcimer A
21	Ac Piano1 C	71	Clav 1B	121	Pipe Organ	171	JC Strat B	221	Dulcimer B
22	Piano Thump	72	Clav 1C	122	Soft Nylon A	172	JC Strat C	222	Dulcimer C
23	Piano Up TH	73	Clav 2A	123	Soft Nylon B	173	JC Strat A+	223	Shamisen A
24	Piano Atk	74	Clav 2B	124	Soft Nylon C	174	JC Strat B+	224	Shamisen B
25	MKS-20 P3 A	75	Clav 2C	125	Nylon Gtr A	175	JC Strat C+	225	Shamisen C
26	MKS-20 P3 B	76	Clav 3A	126	Nylon Gtr B	176	Clean Gtr A	226	Koto A
27	MKS-20 P3 C	77	Clav 3B	127	Nylon Gtr C	177	Clean Gtr B	227	Koto B
28	SA Rhodes 1A	78	Clav 3C	128	Nylon Str	178	Clean Gtr C	228	Koto C
29	SA Rhodes 1B	79	Clav 4A	129	6-Str Gtr A	179	Stratus A	229	Taishokoto A
30	SA Rhodes 1C	80	Clav 4B	130	6-Str Gtr B	180	Stratus B	230	Taishokoto B
31	SA Rhodes 2A	81	Clav 4C	131	6-Str Gtr C	181	Stratus C	231	Taishokoto C
32	SA Rhodes 2B	82	Clav Wave	132	StlGtr mp A	182	Scrape Gut	232	Pick Bass A
33	SA Rhodes 2C	83	MIDI Clav	133	StlGtr mp B	183	Strat Sust	233	Pick Bass B
34	Dyn Rhd mp A	84	HarpsiWave A	134	StlGtr mp C	184	Strat Atk	234	Pick Bass C
35	Dyn Rhd mp B	85	HarpsiWave B	135	StlGtr mf A	185	OD Gtr A	235	Fingerd Bs A
36	Dyn Rhd mp C	86	HarpsiWave C	136	StlGtr mf B	186	OD Gtr B	236	Fingerd Bs B
37	Dyn Rhd mf A	87	Jazz Organ 1	137	StlGtr mf C	187	OD Gtr C	237	Fingerd Bs C
38	Dyn Rhd mf B	88	Jazz Organ 2	138	StlGtr ff A	188	OD Gtr A+	238	E.Bass
39	Dyn Rhd mf C	89	Organ 1	139	StlGtr ff B	189	Heavy Gtr A	239	P.Bass 1
40	Dyn Rhd ff A	90	Organ 2	140	StlGtr ff C	190	Heavy Gtr B	240	P.Bass 2
41	Dyn Rhd ff B	91	Organ 3	141	StlGtr sld A	191	Heavy Gtr C	241	Stick
42	Dyn Rhd ff C	92	Organ 4	142	StlGtr sld B	192	Heavy Gtr A+	242	Fretless A
43	Wurly soft A	93	60's Organ1	143	StlGtr sld C	193	Heavy Gtr B+	243	Fretless B
44	Wurly soft B	94	60's Organ2	144	StlGtr Hrm A	194	Heavy Gtr C+	244	Fretless C
45	Wurly soft C	95	60's Organ3	145	StlGtr Hrm B	195	PowerChord A	245	Fretless 2A
46	Wurly hard A	96	60's Organ4	146	StlGtr Hrm C	196	PowerChord B	246	Fretless 2B
47	Wurly hard B	97	Full Organ	147	Gtr Harm A	197	PowerChord C	247	Fretless 2C
48	Wurly hard C	98	Full Draw	148	Gtr Harm B	198	EG Harm	248	UprightBs 1
49	E.Piano 1A	99	Rock Organ	149	Gtr Harm C	199	Gt.FretNoise	249	UprightBs 2A
50	E.Piano 1B	100	RockOrg1 A L	150	Jazz Gtr A	200	Syn Gtr A	250	UprightBs 2B

Waveform List

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
251	UprightBs 2C	301	Oboe mf A	351	OrcUnisonA L	401	Violin 2 B	451	Voice Aahs B
252	Ac.Bass A	302	Oboe mf B	352	OrcUnisonA R	402	Violin 2 C	452	Voice Aahs C
253	Ac.Bass B	303	Oboe mf C	353	OrcUnisonB L	403	Cello A	453	Voice Oohs1A
254	Ac.Bass C	304	Oboe f A	354	OrcUnisonB R	404	Cello B	454	Voice Oohs1B
255	Slap Bass 1	305	Oboe f B	355	OrcUnisonC L	405	Cello C	455	Voice Oohs1C
256	Slap & Pop	306	Oboe f C	356	OrcUnisonC R	406	Cello 2 A	456	Voice Oohs2A
257	Slap Bass 2	307	E.Horn A	357	BrassSectA L	407	Cello 2 B	457	Voice Oohs2B
258	Slap Bass 3	308	E.Horn B	358	BrassSectA R	408	Cello 2 C	458	Voice Oohs2C
259	Jz.Bs Thumb	309	E.Horn C	359	BrassSectB L	409	Cello Wave	459	Choir 1A
260	Jz.Bs Slap 1	310	Bassoon A	360	BrassSectB R	410	Pizz	460	Choir 1B
261	Jz.Bs Slap 2	311	Bassoon B	361	BrassSectC L	411	STR Attack A	461	Choir 1C
262	Jz.Bs Slap 3	312	Bassoon C	362	BrassSectC R	412	STR Attack B	462	Oohs Chord L
263	Jz.Bs Pop	313	T_Recorder A	363	Tpt Sect. A	413	STR Attack C	463	Oohs Chord R
264	Funk Bass1	314	T_Recorder B	364	Tpt Sect. B	414	DolceStr.A L	464	Male Ooh A
265	Funk Bass2	315	T_Recorder C	365	Tpt Sect. C	415	DolceStr.A R	465	Male Ooh B
266	Syn Bass A	316	Sop.Sax A	366	Tb Sect A	416	DolceStr.B L	466	Male Ooh C
267	Syn Bass C	317	Sop.Sax B	367	Tb Sect B	417	DolceStr.B R	467	Org Vox A
268	Syn Bass	318	Sop.Sax C	368	Tb Sect C	418	DolceStr.C L	468	Org Vox B
269	Syn Bass 2 A	319	Sop.Sax mf A	369	T.Sax Sect A	419	DolceStr.C R	469	Org Vox C
270	Syn Bass 2 B	320	Sop.Sax mf B	370	T.Sax Sect B	420	JV Strings L	470	Org Vox
271	Syn Bass 2 C	321	Sop.Sax mf C	371	T.Sax Sect C	421	JV Strings R	471	ZZZ Vox
272	Mini Bs 1A	322	Alto mp A	372	Flugel A	422	JV Strings A	472	Bell VOX
273	Mini Bs 1B	323	Alto mp B	373	Flugel B	423	JV Strings C	473	Kalimba
274	Mini Bs 1C	324	Alto mp C	374	Flugel C	424	JP Strings1A	474	JD Kalimba
275	Mini Bs 2	325	Alto Sax 1A	375	FlugelWave	425	JP Strings1B	475	KImba Atk
276	Mini Bs 2+	326	Alto Sax 1B	376	Trumpet 1A	426	JP Strings1C	476	Wood Crak
277	MC-202 Bs A	327	Alto Sax 1C	377	Trumpet 1B	427	JP Strings2A	477	Block
278	MC-202 Bs B	328	T.Breathy A	378	Trumpet 1C	428	JP Strings2B	478	Gamelan 1
279	MC-202 Bs C	329	T.Breathy B	379	Trumpet 2A	429	JP Strings2C	479	Gamelan 2
280	Hollow Bs	330	T.Breathy C	380	Trumpet 2B	430	PWM	480	Gamelan 3
281	Flute 1A	331	SoloSax A	381	Trumpet 2C	431	Pulse Mod	481	Log Drum
282	Flute 1B	332	SoloSax B	382	HarmonMute1A	432	Soft Pad A	482	Hooky
283	Flute 1C	333	SoloSax C	383	HarmonMute1B	433	Soft Pad B	483	Tabla
284	Jazz Flute A	334	Tenor Sax A	384	HarmonMute1C	434	Soft Pad C	484	Marimba Wave
285	Jazz Flute B	335	Tenor Sax B	385	Trombone 1	435	Fantasynth A	485	Xylo
286	Jazz Flute C	336	Tenor Sax C	386	Trombone 2 A	436	Fantasynth B	486	Xylophone
287	Flute Tone	337	T.Sax mf A	387	Trombone 2 B	437	Fantasynth C	487	Vibes
288	Piccolo A	338	T.Sax mf B	388	Trombone 2 C	438	D-50 HeavenA	488	Bottle Hit
289	Piccolo B	339	T.Sax mf C	389	Tuba A	439	D-50 HeavenB	489	Glockenspiel
290	Piccolo C	340	Bari.Sax f A	390	Tuba B	440	D-50 HeavenC	490	Tubular
291	Blow Pipe	341	Bari.Sax f B	391	Tuba C	441	Fine Wine	491	Steel Drums
292	Pan Pipe	342	Bari.Sax f C	392	French 1A	442	D-50 Brass A	492	Pole lp
293	BottleBlow	343	Bari.Sax A	393	French 1C	443	D-50 Brass B	493	Fanta Bell A
294	Rad Hose	344	Bari.Sax B	394	F.Horns A	444	D-50 Brass C	494	Fanta Bell B
295	Shakuhachi	345	Bari.Sax C	395	F.Horns B	445	D-50 BrassA+	495	Fanta Bell C
296	Shaku Atk	346	Syn Sax	396	F.Horns C	446	Doo	496	FantaBell A+
297	Flute Push	347	Chanter	397	Violin A	447	Pop Voice	497	Org Bell
298	Clarinet A	348	Harmonica A	398	Violin B	448	Syn Vox 1	498	AgogoBells
299	Clarinet B	349	Harmonica B	399	Violin C	449	Syn Vox 2	499	FingerBell
300	Clarinet C	350	Harmonica C	400	Violin 2 A	450	Voice Aahs A	500	DIGI Bell 1

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
501	DIGI Bell 1+	551	DualSquare A	601	TVF_Trig	651	Thunder 2	701	Jazz Rim ffR
502	JD Cowbell	552	DualSquare C	602	Org Click	652	AmbientSN pL	702	Brush Slap
503	Bell Wave	553	DualSquareA+	603	Cut Noiz	653	AmbientSN pR	703	Brush Swish
504	Chime	554	JD SynPulse1	604	Bass Body	654	AmbientSN fL	704	Jazz Swish p
505	Crystal	555	JD SynPulse2	605	Flute Click	655	AmbientSN fR	705	Jazz Swish f
506	2.2 Bellwave	556	JD SynPulse3	606	Gt&BsNz MENU	656	Wet SN p L	706	909 SN 1
507	2.2 Vibwave	557	JD SynPulse4	607	Ac.BassNz 1	657	Wet SN p R	707	909 SN 2
508	Digiwave	558	Synth Pulse1	608	Ac.BassNz 2	658	Wet SN f L	708	808 SN
509	DIGI Chime	559	Synth Pulse2	609	El.BassNz 1	659	Wet SN f R	709	Rock Roll L
510	JD DIGIChime	560	JD SynPulse5	610	El.BassNz 2	660	Dry SN p	710	Rock Roll R
511	BrightDigi	561	Sync Sweep	611	DistGtrNz 1	661	Dry SN f	711	Jazz Roll
512	Can Wave 1	562	Triangle	612	DistGtrNz 2	662	Sharp SN	712	Brush Roll
513	Can Wave 2	563	JD Triangle	613	DistGtrNz 3	663	Piccolo SN	713	Dry Stick
514	Vocal Wave	564	Sine	614	DistGtrNz 4	664	Maple SN	714	Dry Stick 2
515	Wally Wave	565	Metal Wind	615	SteelGtrNz 1	665	Old Fill SN	715	Side Stick
516	Brusky lp	566	Wind Agogo	616	SteelGtrNz 2	666	70s SN	716	Woody Stick
517	Wave Scan	567	Feedbackwave	617	SteelGtrNz 3	667	SN Roll	717	RockStick pL
518	Wire String	568	Spectrum	618	SteelGtrNz 4	668	Natural SN1	718	RockStick pR
519	Nasty	569	CrunchWind	619	SteelGtrNz 5	669	Natural SN2	719	RockStick fL
520	Wave Table	570	ThroatWind	620	SteelGtrNz 6	670	Ballad SN	720	RockStick fR
521	Klack Wave	571	Pitch Wind	621	SteelGtrNz 7	671	Rock SN p L	721	Dry Kick
522	Spark VOX	572	JD Vox Noise	622	Sea	672	Rock SN p R	722	Maple Kick
523	JD Spark VOX	573	Vox Noise	623	Thunder	673	Rock SN mf L	723	Rock Kick p
524	Cutters	574	BreathNoise	624	Windy	674	Rock SN mf R	724	Rock Kick mf
525	EML 5th	575	Voice Breath	625	Stream	675	Rock SN f L	725	Rock Kick f
526	MMM VOX	576	White Noise	626	Bubble	676	Rock SN f R	726	Jazz Kick p
527	Lead Wave	577	Pink Noise	627	Bird	677	Rock Rim p L	727	Jazz Kick mf
528	Synth Reed	578	Rattles	628	Dog Bark	678	Rock Rim p R	728	Jazz Kick f
529	Synth Saw 1	579	Ice Rain	629	Horse	679	Rock Rim mfL	729	Jazz Kick
530	Synth Saw 2	580	Tin Wave	630	Telephone 1	680	Rock Rim mfR	730	Pillow Kick
531	Syn Saw 2inv	581	Anklungs	631	Telephone 2	681	Rock Rim f L	731	JazzDry Kick
532	Synth Saw 3	582	Wind Chimes	632	Creak	682	Rock Rim f R	732	Lite Kick
533	JD Syn Saw 2	583	Orch. Hit	633	Door Slam	683	Rock Gst L	733	Old Kick
534	FAT Saw	584	Tekno Hit	634	Engine	684	Rock Gst R	734	Hybrid Kick
535	JP-8 Saw A	585	Back Hit	635	Car Stop	685	Snare Ghost	735	Hybrid Kick2
536	JP-8 Saw B	586	Philly Hit	636	Car Pass	686	Jazz SN p L	736	Verb Kick
537	JP-8 Saw C	587	Scratch 1	637	Crash	687	Jazz SN p R	737	Round Kick
538	P5 Saw A	588	Scratch 2	638	Gun Shot	688	Jazz SN mf L	738	MplLmtr Kick
539	P5 Saw B	589	Scratch 3	639	Siren	689	Jazz SN mf R	739	70s Kick 1
540	P5 Saw C	590	Shami	640	Train	690	Jazz SN f L	740	70s Kick 2
541	P5 Saw2 A	591	Org Atk 1	641	Jetplane	691	Jazz SN f R	741	Dance Kick
542	P5 Saw2 B	592	Org Atk 2	642	Starship	692	Jazz SN ff L	742	808 Kick
543	P5 Saw2 C	593	Sm Metal	643	Breath	693	Jazz SN ff R	743	909 Kick 1
544	D-50 Saw A	594	StrikePole	644	Laugh	694	Jazz Rim p L	744	909 Kick 2
545	D-50 Saw B	595	Thrill	645	Scream	695	Jazz Rim p R	745	Rock TomL1 p
546	D-50 Saw C	596	Switch	646	Punch	696	Jazz Rim mfL	746	Rock TomL2 p
547	Synth Square	597	Tuba Slap	647	Heart	697	Jazz Rim mfR	747	Rock Tom M p
548	JP-8 SquareA	598	Plink	648	Steps	698	Jazz Rim f L	748	Rock Tom H p
549	JP-8 SquareB	599	Plunk	649	Machine Gun	699	Jazz Rim f R	749	Rock TomL1 f
550	JP-8 SquareC	600	EP Atk	650	Laser	700	Jazz Rim ffL	750	Rock TomL2 f

Waveform List

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
751	Rock Tom M f	801	Jazz PdHH p	851	Cabasa Down	901	REV Wet SNfR	951	REV JzRoll
752	Rock Tom H f	802	Jazz PdHH f	852	Cabasa Cut	902	REV Dry SN	952	REV Dry Stk
753	Rock Flm L1	803	Pedal HiHat	853	Maracas	903	REV PiccloSN	953	REV DrySick
754	Rock Flm L2	804	Pedal HiHat2	854	Long Guiro	904	REV Maple SN	954	REV Side Stk
755	Rock Flm M	805	Dance Cl HH	855	Tambourine 1	905	REV OldFilSN	955	REV Wdy Stk
756	Rock Flm H	806	909 NZ HiHat	856	Tambourine 2	906	REV 70s SN	956	REV RkStk1L
757	Jazz Tom L p	807	70s Cl HiHat	857	Open Triangl	907	REV SN Roll	957	REV RkStk1R
758	Jazz Tom M p	808	70s Op HiHat	858	Cuica	908	REV NatrlSN1	958	REV RkStk2L
759	Jazz Tom H p	809	606 Cl HiHat	859	Vibraslap	909	REV NatrlSN2	959	REV RkStk2R
760	Jazz Tom L f	810	606 Op HiHat	860	Timpani	910	REV BalladSN	960	REV Thrill
761	Jazz Tom M f	811	909 Cl HiHat	861	Timp3 pp	911	REV RkSNpL	961	REV Dry Kick
762	Jazz Tom H f	812	909 Op HiHat	862	Timp3 mp	912	REV RkSNpR	962	REV Mpl Kick
763	Jazz Flm L	813	808 Claps	863	Applause	913	REV RkSNmfL	963	REV RkKik p
764	Jazz Flm M	814	HumanClapsEQ	864	Syn FX Loop	914	REV RkSNmfR	964	REV RkKik mf
765	Jazz Flm H	815	Tight Claps	865	Loop 1	915	REV RkSNfL	965	REV RkKik f
766	Maple Tom 1	816	Hand Claps	866	Loop 2	916	REV RkSNfR	966	REV JzKik p
767	Maple Tom 2	817	Finger Snaps	867	Loop 3	917	REV RkRimpL	967	REV JzKik mf
768	Maple Tom 3	818	Rock RdCym1p	868	Loop 4	918	REV RkRimpR	968	REV JzKik f
769	Maple Tom 4	819	Rock RdCym1f	869	Loop 5	919	REV RkRimmfL	969	REV Jaz Kick
770	808 Tom	820	Rock RdCym2p	870	Loop 6	920	REV RkRimmfR	970	REV Pillow K
771	Verb Tom Hi	821	Rock RdCym2f	871	Loop 7	921	REV RkRimfL	971	REV Jz Dry K
772	Verb Tom Lo	822	Jazz RdCym p	872	R8 Click	922	REV RkRimfR	972	REV LiteKick
773	Dry Tom Hi	823	Jazz RdCymmf	873	Metronome 1	923	REV RkGstL	973	REV Old Kick
774	Dry Tom Lo	824	Jazz RdCym f	874	Metronome 2	924	REV RkGstR	974	REV Hybrid K
775	Rock ClHH1 p	825	Ride 1	875	MC500 Beep 1	925	REV SnareGst	975	REV HybridK2
776	Rock ClHH1mf	826	Ride 2	876	MC500 Beep 2	926	REV JzSNpL	976	REV 70s K 1
777	Rock ClHH1 f	827	Ride Bell	877	Low Saw	927	REV JzSNpR	977	REV 70s K 2
778	Rock ClHH2 p	828	Rock CrCym1p	878	Low Saw inv	928	REV JzSNmfL	978	REV Dance K
779	Rock ClHH2mf	829	Rock CrCym1f	879	Low P5 Saw	929	REV JzSNmfR	979	REV 909 K 2
780	Rock ClHH2 f	830	Rock CrCym2p	880	Low Pulse 1	930	REV JzSNfL	980	REV RkTomL1p
781	Jazz ClHH1 p	831	Rock CrCym2f	881	Low Pulse 2	931	REV JzSNfR	981	REV RkTomL2p
782	Jazz ClHH1mf	832	Rock Splash	882	Low Square	932	REV JzSNffL	982	REV RkTomM p
783	Jazz ClHH1 f	833	Jazz CrCym p	883	Low Sine	933	REV JzSNffR	983	REV RkTomH p
784	Jazz ClHH2 p	834	Jazz CrCym f	884	Low Triangle	934	REV JzRimpL	984	REV RkTomL1f
785	Jazz ClHH2mf	835	Crash Cymbal	885	Low White NZ	935	REV JzRimpR	985	REV RkTomL2f
786	Jazz ClHH2 f	836	Crash 1	886	Low Pink NZ	936	REV JzRimmfL	986	REV RkTomM f
787	Cl HiHat 1	837	Rock China	887	DC	937	REV JzRimmfR	987	REV RkTomH f
788	Cl HiHat 2	838	China Cym	888	REV Orch.Hit	938	REV JzRimfL	988	REV RkFlmL1
789	Cl HiHat 3	839	Cowbell	889	REV TeknoHit	939	REV JzRimfR	989	REV RkFlmL2
790	Cl HiHat 4	840	Wood Block	890	REV Back Hit	940	REV JzRimffL	990	REV RkFlm M
791	Cl HiHat 5	841	Claves	891	REV PhillHit	941	REV JzRimffR	991	REV RkFlm H
792	Rock OpHH p	842	Bongo Hi	892	REV Steel DR	942	REV Brush 1	992	REV JzTomL p
793	Rock OpHH f	843	Bongo Lo	893	REV Tin Wave	943	REV Brush 2	993	REV JzTomM p
794	Jazz OpHH p	844	Cga Open Hi	894	REV AmbiSNpL	944	REV Brush 3	994	REV JzTomH p
795	Jazz OpHH mf	845	Cga Open Lo	895	REV AmbiSNpR	945	REV JzSwish1	995	REV JzTomL f
796	Jazz OpHH f	846	Cga Mute Hi	896	REV AmbiSNfL	946	REV JzSwish2	996	REV JzTomM f
797	Op HiHat	847	Cga Mute Lo	897	REV AmbiSNfR	947	REV 909 SN 1	997	REV JzTomH f
798	Op HiHat 2	848	Cga Slap	898	REV Wet SNpL	948	REV 909 SN 2	998	REV JzFlm L
799	Rock PdHH p	849	Timbale	899	REV Wet SNpR	949	REV RkRoll L	999	REV JzFlm M
800	Rock PdHH f	850	Cabasa Up	900	REV Wet SNfL	950	REV RkRoll R	1000	REV JzFlm H

No.	Wave Name	No.	Wave Name
1001	REV MplTom2	1051	REV RkRCym2p
1002	REV MplTom4	1052	REV RkRCym2f
1003	REV 808Tom	1053	REV JzRCym p
1004	REV VerbTomH	1054	REV JzRCymmf
1005	REV VerbTomL	1055	REV JzRCym f
1006	REV DryTom H	1056	REV Ride 1
1007	REV DryTom M	1057	REV Ride 2
1008	REV RkClH1 p	1058	REV RideBell
1009	REV RkClH1mf	1059	REV RkCCym1p
1010	REV RkClH1 f	1060	REV RkCCym1f
1011	REV RkClH2 p	1061	REV RkCCym2p
1012	REV RkClH2mf	1062	REV RkCCym2f
1013	REV RkClH2 f	1063	REV RkSplash
1014	REV JzClH1 p	1064	REV JzCCym p
1015	REV JzClH1mf	1065	REV JzCCym f
1016	REV JzClH1 f	1066	REV CrashCym
1017	REV JzClH2 p	1067	REV Crash 1
1018	REV JzClH2mf	1068	REV RkChina
1019	REV JzClH2 f	1069	REV China
1020	REV Cl HH 1	1070	REV Cowbell
1021	REV Cl HH 2	1071	REV WoodBlck
1022	REV Cl HH 3	1072	REV Claves
1023	REV Cl HH 4	1073	REV Conga
1024	REV Cl HH 5	1074	REV Timbale
1025	REV RkOpHH p	1075	REV Maracas
1026	REV RkOpHH f	1076	REV Guiro
1027	REV JzOpHH p	1077	REV Tamb 1
1028	REV JzOpHHmf	1078	REV Tamb 2
1029	REV JzOpHH f	1079	REV Cuica
1030	REV Op HiHat	1080	REV Timpani
1031	REV OpHiHat2	1081	REV Timp3 pp
1032	REV RkPdHH p	1082	REV Timp3 mp
1033	REV RkPdHH f	1083	REV Metro
1034	REV JzPdHH p		
1035	REV JzPdHH f		
1036	REV PedalHH		
1037	REV PedalHH2		
1038	REV Dance HH		
1039	REV 70s ClHH		
1040	REV 70s OpHH		
1041	REV 606 ClHH		
1042	REV 606 OpHH		
1043	REV 909 NZHH		
1044	REV 909 OpHH		
1045	REV HClapsEQ		
1046	REV TghtClps		
1047	REV FingSnap		
1048	REV RealCLP		
1049	REV RkRCym1p		
1050	REV RkRCym1f		

MIDI Implementation

Model   XV-5080
Date   May. 20, 2000
Version   1.00

1. Receive data

■Channel Voice Messages

* Not received in Performance mode when the Receive Switch parameter (PERFORM/PART) is OFF.

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number:0H - FH (Ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = note off velocity:00H - 7FH (0 - 127)

* Not received when the Envelope Mode parameter (PATCH/TONE and RHYTHM/TONE) is NO-SUS.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = note on velocity:01H - 7FH (1 - 127)

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnHkkH	vvH	

n = MIDI channel number:0H - FH (Ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = Polyphonic Key Pressure:00H - 7FH (0 - 127)

* Not received in Performance mode when the Receive Polyphonic Key Pressure parameter (PERFORM/MIDI) is OFF.

●Control Change

* If the corresponding Controller number is selected for the Patch Control Source 1, 2, 3 or 4 parameter (PATCH COMMON), the corresponding effect will occur.
* If a Controller number that corresponds to the System Control Source 1, 2, 3 or 4 parameter (SYSTEM/COMMON) is selected, the specified effect will apply if Patch Control Source 1, 2, 3 or 4 parameter (PATCH/COMMON) is set to SYS-CTRL1, CTRL-2, CTRL-3 or CTRL-4.

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm, ll = Bank nunber:00 00H - 7F 7FH (bank.1 - bank.16384)

* Not received in Performance mode when the Receive Bank Select (PERFORM/MIDI) is OFF.
* The Performances, Rhythms, and Patches corresponding to each Bank Select are as follows.
* The SRX series corresponding to each Bank Select are to see the SRX series owner's manual.

BANK SELECT		PROGRAM NUMBER	GROUP	NUMBER
MSB	LSB			
000		001 - 128	GM Patch	
:				
032		001 - 128	GM Patch	
085	000	001 - 064	User Performance	001 - 064
	032	001 - 064	Card Performance A	001 - 064
	033	001 - 064	Card Performance B	001 - 064
	:		:	
	064	001 - 032	Preset Performance A	001 - 032
	065	001 - 032	Preset Performance B	001 - 032
086	000	001 - 004	User Rhythm	001 - 004
	032	001 - 004	Card Rhythm A	001 - 004
	033	001 - 004	Card Rhythm B	001 - 004
	:		:	
	064	001 - 002	Preset Rhythm A	001 - 002
	065	001 - 002	Preset Rhythm B	001 - 002
	:		:	
087	000	001 - 128	User Patch	001 - 128
	032	001 - 128	Card Patch A	001 - 128
	033	001 - 128	Card Patch B	001 - 128
	:		:	
	064	001 - 128	Preset Patch A	001 - 128
	065	001 - 128	Preset Patch B	001 - 128
	:		:	
088	000 - 001	001 - 128	SR-JV80-01 Rhythm	001 - 256
	002 - 003	001 - 128	SR-JV80-02 Rhythm	001 - 256
	:		:	
089	000 - 001	001 - 128	SR-JV80-01 Patch	001 - 256
	002 - 003	001 - 128	SR-JV80-02 Patch	001 - 256
	:		:	
092	000 -	001 -	SRX Rhythm	001 -
	:		:	
093	000 -	001 -	SRX Patch	001 -
	:		:	
120		001 - 057	GM Rhythm	001 - 009
121	000 - 009	001 - 128	GM Patch	001 - 256

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Modulation depth:00H - 7FH (0 - 127)

* Not received in Performance mode when the Receive Modulation (PERFORM/MIDI) is OFF.

❍Breath type (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍Foot type (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Portamento Time:00H - 7FH (0 - 127)

* In Performance mode the Part Portamento Time parameter (PERFORM/PART) will change.

❍Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H - FH (Ch.1 - 16)
mm, ll = the value of the parameter specified by RPN/NRPN
mm = MSB, ll = LSB

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Volume: 00H - 7FH (0 - 127)

* Not received in Performance mode when the Receive Volume parameter (PERFORM/MIDI) is OFF.
* In Performance mode the Part Level parameter (PERFORM/PART) will change.

❍Balance (Controller number 8)

Status	2nd byte	3rd byte
BnH	08H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Balance: 00H - 7FH (0 - 127)

❍Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Panpot: 00H - 40H - 7FH (Left - Center - Right),

* Not received in Performance mode when the Receive Pan parameter (PERFORM/MIDI) is OFF.

*   In Performance mode the Part pan parameter (PERFORM/PART) will change.

○**Expression (Controller number 11)**

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Expression: 00H - 7FH (0 - 127)

*   Not received when Tone Receive Expression parameter (PATCH/TONE or RHYTHM/TONE) is OFF.

*   Not received in Performance mode when Receive Expression parameter (PERFORM/MIDI) is OFF.

○**Hold 1 (Controller number 64)**

Status	2nd byte	3rd byte
BnH	40H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127) 0-63 = OFF, 64-127 = ON

*   Not received when Tone Receive Hold-1 parameter (PATCH/TONE or RHYTHM/TONE) is OFF.

*   Not received in Performance mode when Receive Hold-1 parameter (PERFORM/MIDI) is OFF.

○**Portamento (Controller number 65)**

Status	2nd byte	3rd byte
BnH	41H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

*   In Performance mode the Part Portamento Switch parameter (PERFORM/PART) will change.

○**Sostenuto (Controller number 66)**

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

○**Soft (Controller number 67)**

Status	2nd byte	3rd byte
BnH	43H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

○**Legato Foot Switch (Controller number 68)**

Status	2nd byte	3rd byte
BnH	44H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

*   In Performance mode the Part Legato Switch parameter (PERFORM/PART) will change.

○**Hold-2 (Controller number 69)**

Status	2nd byte	3rd byte
BnH	45H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127)

*   A hold movement isn't done.

○**Resonance (Controller number 71)**

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv= Resonance value (relative change):00H - 7FH (-64 - 0 - +63),

*   In Performance mode the Part Resonance Offset parameter (PERFORM/PART) will change.

○**Release Time (Controller number 72)**

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Release Time value (relative change):00H - 7FH (-64 - 0 - +63),

*   In Performance mode the Part Release Time Offset parameter (PERFORM/PART) will change.

○**Attack time (Controller number 73)**

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Attack time value (relative change):00H - 7FH (-64 - 0 - +63),

*   In Performance mode the Part Attack Time Offset parameter (PERFORM/PART) will change.

○**Cutoff (Controller number 74)**

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Cutoff value (relative change):00H - 7FH (-64 - 0 - +63)

*   In Performance mode the Part Cutoff Offset parameter (PERFORM/PART) will change.

○**Decay Time (Controller number 75)**

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Decay Time value (relative change):00H - 7FH (-64 - 0 - +63)

*   The decay time will change in GM mode.

○**Vibrato Rate (Controller number 76)**

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Vibrato Rate value (relative change):00H - 7FH (-64 - 0 - +63)

*   The vibrato rate will change in GM mode.

○**Vibrato Depth (Controller number 77)**

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Vibrato Depth Value (relative change):00H - 7FH (-64 - 0 - +63)

*   The vibrato depth will change in GM mode.

○**Vibrato Delay (Controller number 78)**

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Vibrato Delay value (relative change):00H - 7FH (-64 - 0 - +63)

*   The vibrato delay will change in GM mode.

○**General Purpose Controller 5 (Controller number 80)**

Status	2nd byte	3rd byte
BnH	50H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127)

*   The Tone Level parameter (PATCH/TONE) of Tone 1 will change.

○**General Purpose Controller 6 (Controller number 81)**

Status	2nd byte	3rd byte
BnH	51H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127)

*   The Tone Level parameter (PATCH/TONE) of Tone 2 will change.

○**General Purpose Controller 7 (Controller number 82)**

Status	2nd byte	3rd byte
BnH	52H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)

vv = Control value: 00H - 7FH (0 - 127)

*   The Tone Level parameter (PATCH/TONE) of Tone 3 will change.

Appendices

MIDI Implementation

○**General Purpose Controller 8 (Controller number 83)**

Status	2nd byte	3rd byte
BnH	53H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* The Tone Level parameter (PATCH/TONE) of Tone 4 will change.

○**Portamento control (Controller number 84)**

Status	2nd byte	3rd byte
BnH	54H	kkH

n = MIDI channel number:0H - FH (Ch.1 - 16)
kk = source note number:00H - 7FH (0 - 127)

* A Note-on received immediately after a Portamento Control message will change continuously in pitch, starting from the pitch of the Source Note Number.
* If a voice is already sounding for a note number identical to the Source Note Number, this voice will continue sounding (i.e., legato) and will, when the next Note-on is received, smoothly change to the pitch of that Note-on.
* The rate of the pitch change caused by Portamento Control is determined by the Portamento Time value.

○**Effect 1 (Reverb Send Level) (Controller number 91)**

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Reverb Send Level:00H - 7FH (0 - 127)

* In Performance mode the Part Part Reverb Send Level parameter (PERFORM/PART) will change.

○**Effect 3 (Chorus Send Level) (Controller number 93)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Chorus Send Level:00H - 7FH (0 - 127)

* In Performance mode the Part Part Chorus Send Level parameter (PERFORM/PART) will change.

○**RPN MSB/LSB (Controller number 100, 101)**

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm = upper byte (MSB) of parameter number specified by RPN
ll = lower byte (LSB) of parameter number specified by RPN

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended
When using RPNs, first the RPN (Controller numbers 100 and 101; they can be sent in any

This device receives the following RPNs.

RPN	Data entry	
MSB, LSB	MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity
	mm:	00H - 18H (0 - 24 semitones)
	ll:	ignored (processed as 00H)

Up to 2 octave can be specified in semitone steps.
* In Performance mode, the Part Pitch Bend Range parameter (PERFORM/PART) will change.

00H, 01H	mmH, llH	Master Fine Tuning
	mm, ll:	20 00H - 40 00H - 60 00H (-8192 - 50/ 8192 - 0 - +8192*50/8192 cent)

* In Performance mode, the Part Fine Tune parameter (PERFORM/PART) will change.

00H, 02H	mmH, llH	Master Coarse Tuning
	mm:	10H - 40H - 70H (-48 - 0 - +48 semitones)
	ll:	ignored (processed as 00H)

* In Performance mode, the Part Coarse Tune parameter (PERFORM/PART) will change.

| 7FH, 7FH | ---, --- | RPN null |

RPN and NRPN will be set as "unspecified". Once this setting has been made, subsequent

Parameter values that were previously set will not change.
mm, ll: ignored

●**Program Change**

Status	2nd byte
CnH	ppH

n = MIDI channel number:0H - FH (Ch.1 - 16)
pp = Program number:00H - 7FH (prog.1 - prog.128)

* Not received in Performance mode when the Receive Program parameter (PERFORM/MIDI) is OFF.

●**Channel Pressure**

Status	2nd byte
DnH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Channel Pressure:00H - 7FH (0 - 127)

* Not received in Performance mode when the Receive Channel Pressure parameter (PERFORM/MIDI) is OFF.

●**Pitch Bend Change**

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm, ll = Pitch Bend value:00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

* Not received when the Tone Receive Bender parameter (PATCH/TONE) is OFF.
* Not received in Performance mode when the Receive Bender parameter (PERFORM/MIDI) is OFF.

■**Channel Mode Messages**

* Not received in Performance mode when the Receive Switch parameter (PERFORM/MIDI) is OFF.

●**All Sounds Off (Controller number 120)**

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H - FH (Ch.1 - 16)

* When this message is received, all notes currently sounding on the corresponding channel will be turned off.

●**Reset All Controllers (Controller number 121)**

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H - FH (Ch.1 - 16)

* When this message is received, the following controllers will be set to their reset values.

Controller	Reset value
Pitch Bend Change	+/-0 (center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Breath Type	0 (min)
Expression	127 (max)
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
Hold 2	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

●**All Notes Off (Controller number 123)**

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H - FH (Ch.1 - 16)

* When All Notes Off is received, all notes on the corresponding channel will be turned off. However, if Hold 1 or Sostenuto is ON, the sound will be continued until these are turned off.

●OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

n = MIDI channel number:0H - FH (Ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received.

●MNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

n = MIDI channel number: 0H - FH (Ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received. OMNI ON will not be turned on.

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm = mono number:00H - 10H (0 - 16)

* The same processing will be carried out as when All Notes Off is received.
* In Performance mode, the Part Mono/Poly parameter (PERFORM/PART) will change.

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n = MIDI channel number: 0H - FH (Ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received.
* In Performance mode, the Part Mono/Poly parameter (PERFORM/PART) will change.

■System Realtime Message

●Timing Clock

Status
F8H

* This message will be received if the Clock Source parameter (SYSTEM/COMMON) is MIDI.

●Active Sensing

Status
FEH

* When Active Sensing is received, the unit will begin monitoring the intervals of all further messages. While monitoring, if the interval between messages exceeds 420 ms, the same processing will be carried out as when All Sounds Off, All Notes Off and Reset All Controllers are received, and message interval monitoring will be halted.

■System Exclusive Message

Status	Data byte	Status
F0H	iiH, ddH, ...,eeH	F7H

F0H: System Exclusive Message status
ii = ID number: an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. Roland's manufacturer ID is 41H.
ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd,...,ee = data: 00H - 7FH (0 - 127)
F7H: EOX (End Of Exclusive)

Of the System Exclusive messages received by this device, the Universal Non-realtime messages and the Universal Realtime messages and the Data Request (RQ1) messages and the Data Set (DT1) messages will be set automatically.

●Universal Non-realtime System Exclusive Messages

○Identity Request Message

Status	Data byte	Status
F0H	7EH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When this message is received, Identity Reply message (p. 289) will be transmitted.

○GM1 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI 1 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the GM1 mode.
* Not received when the Receive GM1 System On parameter (SYSTEM/COMMON) is OFF.

○GM2 System On

Status	Data byte	Status
F0H	7EH 7FH 09H 03H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
03H	Sub ID#2 (General MIDI 2 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the GM2 mode.
* Not received when the Receive GM2 System On parameter (SYSTEM/COMMON) is OFF.

○GM System Off

Status	Data byte	Status
F0H	7EH,7F,09H,02H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
02H	Sub ID#2 (General MIDI Off)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will return to the Performance mode.

●Universal Realtime System Exclusive Messages
○Master Volume

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 01H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control messages)
01H	Sub ID#2 (Master Volume)
llH	Master Volume lower byte
mmH	Master Volume upper byte
F7H	EOX (End Of Exclusive)

* The lower byte (llH) of Master Volume will be handled as 00H.
* The Master Level parameter (SYSTEM/COMMON) will change.

○Master Fine Tuning

Status	Data byte	Status
F0H	7FH,7FH,04H,03H,llH,mmH	F7H

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Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
03H	Sub ID#2 (Master Fine Tuning)
llH	Master Fine Tuning LSB
mmH	Master Fine Tuning MSB
F7H	EOX (End Of Exclusive)

mm, ll : 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.9 [cents])

* The Master Tune parameter (SYSTEM/COMMON) will change.

❍Master Coarse Tuning

Status	Data byte	Status
F0H	7FH,7FH,04H,04H,llH,mmH	F7

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
04H	Sub ID#2 (Master Coarse Tuning)
llH	Master Coarse Tuning LSB
mmH	Master Coarse Tuning MSB
F7H	EOX (End Of Exclusive)

llH :	ignored (processed as 00H)
mmH :	28H - 40H - 58H (-24 - 0 - +24 [semitones])

* The Master Key Shift parameter (SYSTEM/COMMON) will change.

●Global Parameter Control

* Not received in Performance mode and Patch mode.

❍Reverb Parameters

Status	Data byte	Status
F0H	7FH,7FH,04H,05H,01H,01H,01H,01H,01H,ppH,vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
01H	Slot path LSB (Effect 0101: Reverb)
ppH	Parameter to be controlled.
vvH	Value for the parameter.
	pp=0 Reverb Type
	vv = 00H Small Room
	vv = 01H Medium Room
	vv = 02H Large Room
	vv = 03H Medium Hall
	vv = 04H Large Hall
	vv = 08H Plate
	pp=1 Reverb Time
	vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Chorus Parameters

Status	Data byte	Status
F0H	7FH,7FH,04H,05H,01H,01H,01H,01H,02H,ppH,vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter width
01H	Value width
01H	Slot path MSB
02H	Slot path LSB (Effect 0102: Chorus)
ppH	Parameter to be controlled.
vvH	Value for the parameter.
	pp=0 Chorus Type
	vv=0 Chorus1
	vv=1 Chorus2
	vv=2 Chorus3
	vv=3 Chorus4
	vv=4 FB Chorus
	vv=5 Flanger
	pp=1 Mod Rate
	vv= 00H - 7FH 0 - 127
	pp=2 Mod Depth
	vv = 00H - 7FH 0 - 127
	pp=3 Feedback
	vv = 00H - 7FH 0 - 127
	pp=4 Send To Reverb
	vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Channel Pressure

Status	Data byte	Status
F0H	7FH,7FH,09H,01H,0nH,ppH,rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
01H	Sub ID#2 (Channel Pressure)
0nH	MIDI Channel (00 - 0F)
ppH	Controlled parameter
rrH	Controlled range
	pp=0 Pitch Control
	rr = 28H - 58H -24 - +24 [semitones]
	pp=1 Filter Cutoff Control
	rr = 00H - 7FH -9600 - +9450[cents]
	pp=2 Amplitude Control
	rr = 00H - 7FH 0 - 200%
	pp=3 LFO Pitch Depth
	rr = 00H - 7FH 0 - 600[cents]
	pp=4 LFO Filter Depth
	rr = 00H - 7FH 0 - 2400[cents]
	pp=5 LFO Amplitude Depth
	rr = 00H - 7FH 0 - 100%
F7H	EOX (End Of Exclusive)

❍Controller

Status	Data byte	Status
F0H	7FH,7FH,09H,03H,0nH,ccH,ppH,rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
03H	Sub ID#2 (Control Change)
0nH	MIDI Channel (00 - 0F)
ccH	Controller number (01 - 1F, 40 - 5F)
ppH	Controlled parameter
rrH	Controlled range
	pp=0 Pitch Control
	rr = 28H - 58H -24 - +24[semitones]
	pp=1 Filter Cutoff Control
	rr = 00H - 7FH -9600 - +9450[cents]
	pp=2 Amplitude Control
	rr = 00H - 7FH 0 - 200%
	pp=3 LFO Pitch Depth
	rr = 00H - 7FH 0 - 600[cents]
	pp=4 LFO Filter Depth
	rr = 00H - 7FH 0 - 2400[cents]
	pp=5 LFO Amplitude Depth
	rr = 00H - 7FH 0 - 100 %
F7H	EOX (End Of Exclusive)

❍**Scale/Octave Tuning Adjust**

Status	Data byte	Status
F0H	7EH,7FH,08H,08H,ffH,ggH,hhH,ssH...	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
08H	Sub ID#1 (MIDI Tuning Standard)
08H	Sub ID#2 (scale/octave tuning 1-byte form)
ffH	Channel/Option byte1
	bits 0 to 1 = channel 15 to 16
	bit 2 to 6 = Undefined
ggH	Channel byte2
	bits 0 to 6 = channel 8 to 14
hhH	Channel byte3
	bits 0 to 6 = channel 1 to 7
ssH	12 byte tuning offset of 12 semitones from C to B
	00H = -64 [cents]
	40H = 0 [cents] (equal temperament)
	7FH = +63 [cents]
F7H	EOX (End Of Exclusive)

❍**Key-Based Instrument Controllers**

Status	Data byte	Status
F0H	7FH,7FH,0AH,01H,0nH,kkH,nnH,vvH...	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
0AH	Sub ID#1 (Key-Based Instrument Control)
01H	Sub ID#2 (Controller)
0nH	MIDI Channel (00 - 0F)
kkH	Key Number
nnH	Control Number
vvH	Value
F7	EOX (End Of Exclusive)

nn=07H	Level	
	vv = 00H - 7FH	0 - 200% (Relative)
nn=0AH	Pan	
	vv = 00H - 7FH	Left - Right (Absolute)
nn=5BH	Reverb Send	
	vv = 00H - 7FH	0 - 127 (Absolute)
nn=5D	Chorus Send	
	vv = 00H - 7FH	0 - 127 (Absolute)

* This parameter affects drum instruments only.

●**Sample Dump Standard**

* Received only in Sample Dump mode.

❍**Dump Request**

Status	Data byte	Status
F0H	7EH, dev, 03H, ssH, ssH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
03H	Sub ID (Dump Request)
ssH	Requested sample lower byte
ssH	Requested sample upper byte
F7	EOX (End Of Exclusive)

❍**Dump Header**

Status	Data byte	Status
F0H	7EH, dev, 01H, ssH, ssH, eeH, ffH, ffH, ffH, ggH, ggH, ggH, hhH, hhH, hhH, iiH, iiH, iiH, jjH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
01H	Sub ID (Dump Header)

ssH	Sample number lower byte
ssH	Sample number upper byte
eeH	Sample format
ffH	Sample period lower byte
ffH	Sample period middle byte
ffH	Sample period upper byte
ggH	Sample length lower byte
ggH	Sample length middle byte
ggH	Sample length upper byte
hhH	Loop start point lower byte
hhH	Loop start point middle byte
hhH	Loop start point upper byte
iiH	Loop end point lower byte
iiH	Loop end point middle byte
iiH	Loop end point upper byte
jjH	Loop type
F7	EOX (End Of Exclusive)

❍**Data Packet**

Status	Data byte	Status
F0H	7EH, dev, 02H, kkH, aaH, ... bbH, sum	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
02H	ID number (Data Packet)
kkH	Packet number
aaH	Data (120 byte)
:	:
bbH	Data
sum	checksum
F7H	EOX (End Of Exclusive)

❍**ACK**

Status	Data byte	Status
F0H	7EH, dev, 7FH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7FH	ID number (ACK)
ppH	Packet number
F7H	EOX (End Of Exclusive)

❍**NAK**

Status	Data byte	Status
F0H	7EH, dev, 7EH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7EH	ID number (NAK)
ppH	Packet number
F7H	EOX (End Of Exclusive)

❍**Cancel**

Status	Data byte	Status
F0H	7EH, dev, 7DH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7DH	ID number (Cancel)
ppH	Packet number
F7H	EOX (End Of Exclusive)

❍**Wait**

Status	Data byte	Status
F0H	7EH, dev, 7CH, ppH	F7H

Byte	Explanation
F0H	Exclusive status

7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7CH	ID number (Wait)
ppH	Packet number
F7H	EOX (End Of Exclusive)

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.
he model ID of the exclusive messages used by this instrument is 00H 10H.

❍Data Request 1RQ1 (11H)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested.
When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	Data Byte	Status
F0H	41H, dev, 00H, 10H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (XV-5080)
10H	model ID #2 (XV-5080)
11H	commandID (RQ1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
ssH	size MSB
ttH	size
uuH	size
vvH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in "Parameter Address Map (p. 290)".
* For the checksum, refer to **Example of an Exclusive message and calculating a checksum** (p. 303).
* Not received when the Receive Exclusive parameter (SYSTEM/COMMON) is OFF.

❍Data set 1DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 10H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH, Initial value is 10H)
00H	Model ID #1 (XV-5080)
10H	Model ID #2 (XV-5080)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the data to be sent
bbH	Address: upper middle byte of the starting address of the data to be sent
ccH	Address: lower middle byte of the starting address of the data to be sent
ddH	Address LSB: lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the Address and Size given in Section 3, "Parameter address map.

* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Not received when the Receive Exclusive parameter (SYSTEM/COMMON) is OFF.

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, aaH, bbH, ccH, ddH, ... eeH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 10H)	
42H	Model ID	(GS)
12H	Command ID	(DT1)
aaH	Address MSB:	upper byte of the starting address of the transmitted data
bbH	Address:	middle byte of the starting address of the transmitted data
ccH	Address LSB:	lower byte of the starting address of the transmitted data
ddH	Data:	the actual data to be transmitted. Multiple bytes of data are transmitted starting from the address.
:	:	
eeH	Data	
sum	Checksum	
F7H	EOX	(End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the Address and Size given in Section 3, "Parameter address map.
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Regarding the checksum, please refer to p. 303 .
* Not received when the Receive Exclusive parameter (SYSTEM/COMMON) is OFF.

2. Data transmission (sound source section)

■Channel Voice Messages

When execute the GM Data Transfer, the following Program Change and Control Change will transmit.

●Control Change

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm, ll = Bank nunber:00 00H - 7F 7FH (bank.1 - bank.16384)

❍Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Portamento Time:00H - 7FH (0 - 127)

❍Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H - FH (Ch.1 - 16)
mm, ll = the value of the parameter specified by RPN/NRPN
mm = MSB, ll = LSB

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Volume: 00H - 7FH (0 - 127)

❍**Panpot (Controller number 10)**

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Panpot: 00H - 40H - 7FH (Left - Center - Right),
Initial value = 40H (Center)

❍**Portamento (Controller number 65)**

Status	2nd byte	3rd byte
BnH	41H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

❍**Resonance (Controller number 71)**

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv= Resonance value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Release Time (Controller number 72)**

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Release Time value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Attack time (Controller number 73)**

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Attack time value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Cutoff (Controller number 74)**

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Cutoff value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Decay Time (Controller number 75)**

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Decay Time value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Vibrato Rate (Controller number 76)**

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Vibrato Rate value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Vibrato Depth (Controller number 77)**

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Vibrato Depth Value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Vibrato Delay (Controller number 78)**

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Vibrato Delay value (relative change):00H - 7FH (-64 - 0 - +63)

❍**Effect 1 (Reverb Send Level) (Controller number 91)**

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Reverb Send Level:00H - 7FH (0 - 127)

❍**Effect 3 (Chorus Send Level) (Controller number 93)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

n = MIDI channel number:0H - FH (Ch.1 - 16)
vv = Chorus Send Level:00H - 7FH (0 - 127)

❍**RPN MSB/LSB (Controller number 100, 101)**

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number:0H - FH (Ch.1 - 16)
mm = upper byte (MSB) of parameter number specified by RPN
ll = lower byte (LSB) of parameter number specified by RPN

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended
When using RPNs, first the RPN (Controller numbers 100 and 101; they can be sent in any

This device receives the following RPNs.

RPN MSB, LSB	Data entry MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity
	mm:	00H - 18H (0 - 24 semitones)
	ll:	ignored (processed as 00H)
		Up to 2 octave can be specified in semitone steps.
		* In Performance mode, the Part Pitch Bend Range parameter (PERFORM/PART) will change.
00H, 01H	mmH, llH	Master Fine Tuning
	mm, ll:	20 00H - 40 00H - 60 00H (-8192*50/8192 - 0 - +8192 *50/8192 cent)
		* In Performance mode, the Part Fine Tune parameter (PERFORM/PART) will change.
00H, 02H	mmH, llH	Master Coarse Tuning
	mm:	10H - 40H - 70H (-48 - 0 - +48 semitones)
	ll:	ignored (processed as 00H)
		* In Performance mode, the Part Coarse Tune parameter (PERFORM/PART) will change.
7FH, 7FH	---, ---	RPN null
		RPN and NRPN will be set as "unspecified". Once this setting has been made, subsequent
		Parameter values that were previously set will not change.
		mm, ll: ignored

●**Program Change**

Status	2nd byte
CnH	ppH

n = MIDI channel number:0H - FH (Ch.1 - 16)
pp = Program number:00H - 7FH (prog.1 - prog.128)

■**System Exclusive messages**

Universal Non-realtime System Exclusive Message" and Data Set 1 (DT1) are the only
System Exclusive messages transmitted by the XV-5080.

●**Universal Non-realtime System Exclusive Message**

❍**Identity Reply Message**

Receiving Identity Request Message, the XV-5080 send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 10H, 01H, 00H,	F7H
	00H, 00H, 00H, 00H, 00H	

Byte	Explanation
FOH	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (use the same as the device ID of Roland)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
10H 01H	Device family code
00H 00H	Device family number code
00H 00H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

MIDI Implementation

●Sample Dump Standard

* Transmitted only in Sample Dump mode.

○Dump Header

Status	Data byte	Status
F0H	7EH, dev, 01H, ssH, ssH, eeH, ffH, ffH, ffH, ggH, ggH, ggH, hhH, hhH, hhH, iiH, iiH, iiH, jjH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
01H	Sub ID (Dump Header)
ssH	Sample number lower byte
ssH	Sample number upper byte
eeH	Sample format
ffH	Sample period lower byte
ffH	Sample period middle byte
ffH	Sample period upper byte
ggH	Sample length lower byte
ggH	Sample length middle byte
ggH	Sample length upper byte
hhH	Loop start point lower byte
hhH	Loop start point middle byte
hhH	Loop start point upper byte
iiH	Loop end point lower byte
iiH	Loop end point middle byte
iiH	Loop end point upper byte
jjH	Loop type
F7	EOX (End Of Exclusive)

○Data Packet

Status	Data byte	Status
F0H	7EH, dev, 02H, kkH, aaH, ... bbH, sum	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
02H	ID number (Data Packet)
kkH	Packet number
aaH	Data (120 byte)
:	:
bbH	Data
sum	checksum
F7H	EOX (End Of Exclusive)

○ACK

Status	Data byte	Status
F0H	7EH, dev, 7FH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7FH	ID number (ACK)
ppH	Packet number
F7H	EOX (End Of Exclusive)

○NAK

Status	Data byte	Status
F0H	7EH, dev, 7EH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7EH	ID number (NAK)
ppH	Packet number
F7H	EOX (End Of Exclusive)

○Cancel

Status	Data byte	Status
F0H	7EH, dev, 7DH, ppH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 00H - 1FH (1 - 32), the initial value is 10H (17).)
7DH	ID number (Cancel)
ppH	Packet number
F7H	EOX (End Of Exclusive)

●Data Transmission

○Data set 1DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 10H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH, Initial value is 10H)
00H	Model ID #1 (XV-5080)
10H	Model ID #2 (XV-5080)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the data to be sent
bbH	Address: upper middle byte of the starting address of the data to be sent
ccH	Address: lower middle byte of the starting address of the data to be sent
ddH	Address LSB: lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the Address and Size given in Section 3, "Parameter address map."

* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

3. Parameter address map

Transmission of "#" marked address is devided to some packets. For example, ABH in hexadecimal notation will be devided to 0AH and 0BH, and is sent/recieved in this order.

1. XV-5080 (Model ID: 00H 10H)

```
+-------------+-----------------------------------------------+
| Start       |                                               |
|    Address  |          Description                          |
+-------------+-----------------------------------------------+
| 00 00 00 00 | System                                  *1-1  |
+-------------+-----------------------------------------------+
| 10 00 00 00 | Temporary Performance                   *1-2  |
| 11 00 00 00 | Temporary Patch/Rhythm (Performance Mode Part 1) *1-3 |
| 11 20 00 00 | Temporary Patch/Rhythm (Performance Mode Part 2) |
|      :      |                                               |
| 18 60 00 00 | Temporary Patch/Rhythm (Performance Mode Part 32) |
| 1F 00 00 00 | Temporary Patch/Rhythm (Patch Mode)           |
+-------------+-----------------------------------------------+
| 20 00 00 00 | User Performance (01)                   *1-2  |
| 20 01 00 00 | User Performance (02)                          |
|      :      |                                               |
| 20 3F 00 00 | User Performance (64)                          |
+-------------+-----------------------------------------------+
| 30 00 00 00 | User Patch (001)                        *1-3-1 |
| 30 01 00 00 | User Patch (002)                              |
|      :      |                                               |
| 30 7F 00 00 | User Patch (128)                              |
+-------------+-----------------------------------------------+
| 40 00 00 00 | User Rhythm (001)                       *1-3-2 |
| 40 10 00 00 | User Rhythm (002)                             |
| 40 20 00 00 | User Rhythm (003)                             |
| 40 30 00 00 | User Rhythm (004)                             |
+-------------+-----------------------------------------------+
```

*1-1 System

```
+-------------+-----------------------------------------------+
| Offset      |                                               |
|    Address  |          Description                          |
+-------------+-----------------------------------------------+
| 00 00 00    | System Common                          *1-1-1 |
| 00 02 00    | System EQ                              *1-1-2 |
| 00 10 00    | System Part (Part 1)                   *1-1-3 |
| 00 11 00    | System Part (Part 2)                          |
|      :      |                                               |
| 00 2F 00    | System Part (Part 32)                         |
+-------------+-----------------------------------------------+
```

*1-3 Temporary Patch/Rhythm

```
+-------------+-----------------------------------------------+
| Offset      |                                               |
|    Address  |          Description                          |
+-------------+-----------------------------------------------+
```

```
00 00 00 | Temporary Patch                    *1-3-1
10 00 00 | Temporary Rhythm                   *1-3-2
```

*1-2 Performance

```
Offset
Address  |              Description
00 00 00 | Performance Common                 *1-2-1
00 02 00 | Performance Common MFX             *1-2-2
00 04 00 | Performance Common Chorus          *1-2-3
00 06 00 | Performance Common Reverb          *1-2-4
00 10 00 | Performance MIDI (Channel 1)       *1-2-5
00 11 00 | Performance MIDI (Channel 2)
         :
00 1F 00 | Performance MIDI (Channel 16)      *1-2-6
00 20 00 | Performance Part (Part 1)
00 21 00 | Performance Part (Part 2)
         :
00 3F 00 | Performance Part (Part 32)
```

*1-3-1 Patch

```
Offset
Address  |              Description
00 00 00 | Patch Common                       *1-3-1-1
00 02 00 | Patch Common MFX                   *1-3-1-2
00 04 00 | Patch Common Chorus                *1-3-1-3
00 06 00 | Patch Common Reverb                *1-3-1-4
00 10 00 | Patch TMT (Tone Mix Table)         *1-3-1-5
00 20 00 | Patch Tone (Tone 1)                *1-3-1-6
00 22 00 | Patch Tone (Tone 2)
00 24 00 | Patch Tone (Tone 3)
00 26 00 | Patch Tone (Tone 4)
00 30 00 | Patch Split Key (Key # 21)
00 30 20 | Patch Split Key (Key # 22)         *1-3-1-7
         :
00 45 60 | Patch Split Key (Key # 108)
```

*1-3-2 Rhythm

```
Offset
Address  |              Description
00 00 00 | Rhythm Common                      *1-3-2-1
00 02 00 | Rhythm Common MFX                  *1-3-2-2
00 04 00 | Rhythm Common Chorus               *1-3-2-3
00 06 00 | Rhythm Common Reverb               *1-3-2-4
00 10 00 | Rhythm Tone (Key # 21)             *1-3-2-5
00 12 00 | Rhythm Tone (Key # 22)
         :
01 3E 00 | Rhythm Tone (Key # 108)
```

*1-1-1 System Common

```
Offset
Address                |              Description
    00 00 | 0000 0aaa | Sound Mode                      (0 - 4)
          |           |           PERFORM, PATCH, GM1, GM2, GS
#   00 01 | 0000 aaaa |
          | 0000 bbbb |
          | 0000 cccc |
          | 0000 dddd | Master Tune                  (24 - 2024)
          |           |               -100.0 - 100.0 [cent]
    00 05 | 00aa aaaa | Master Key Shift               (40 - 88)
          |           |                               -24 - +24
    00 06 | 0aaa aaaa | Master Level                   (0 - 127)
    00 07 | 0000 000a | Scale Tune Switch              (0 - 1)
          |           |                               OFF, ON
    00 08 | 0000 000a | Patch Remain                   (0 - 1)
          |           |                               OFF, ON
    00 09 | 0000 000a | Mix/Parallel                   (0 - 1)
          |           |                           MIX, PARALLEL
    00 0A | 0000 000a | MFX Switch                     (0 - 1)
          |           |                             BYPASS, ON
    00 0B | 0000 000a | Chorus Switch                  (0 - 1)
          |           |                               OFF, ON
    00 0C | 0000 000a | Reverb Switch                  (0 - 1)
          |           |                               OFF, ON
    00 0D | 000a aaaa | Performance Control Channel    (0 - 16)
          |           |                           1 - 16, OFF
    00 0E | 0aaa aaaa | Performance Bank Select MSB (CC# 0)   (0 - 127)
    00 0F | 0aaa aaaa | Performance Bank Select LSB (CC# 32)  (0 - 127)
    00 10 | 0aaa aaaa | Performance Program Number (PC)       (0 - 127)
    00 11 | 0000 aaaa | Patch Receive Channel          (0 - 15)
          |           |                               1 - 16
    00 12 | 0aaa aaaa | Patch Bank Select MSB (CC# 0)  (0 - 127)
    00 13 | 0aaa aaaa | Patch Bank Select LSB (CC# 32) (0 - 127)
    00 14 | 0aaa aaaa | Patch Program Number (PC)      (0 - 127)
    00 15 | 0000 000a | System Clock Source            (0 - 1)
          |           |                             INT, MIDI
#   00 16 | 0000 aaaa |
          | 0000 bbbb | System Tempo                   (20 - 250)
    00 18 | 0aaa aaaa | System Control 1 Source        (0 - 97)
          |           |           OFF, CC01 - CC31, CC33 - CC95,
          |           |                             BEND, AFT
    00 19 | 0aaa aaaa | System Control 2 Source        (0 - 97)
          |           |           OFF, CC01 - CC31, CC33 - CC95,
          |           |                             BEND, AFT
    00 1A | 0aaa aaaa | System Control 3 Source        (0 - 97)
          |           |           OFF, CC01 - CC31, CC33 - CC95,
          |           |                             BEND, AFT
    00 1B | 0aaa aaaa | System Control 4 Source        (0 - 97)
          |           |           OFF, CC01 - CC31, CC33 - CC95,
          |           |                             BEND, AFT
    00 1C | 0000 000a | Receive Program Change         (0 - 1)
          |           |                               OFF, ON
    00 1D | 0000 000a | Receive Bank Select            (0 - 1)
          |           |                               OFF, ON
00 00 00 1E | Total Size
```

*1-1-2 System EQ

```
Offset
Address                |              Description
    00 00 | 0000 000a | EQ Switch                      (0 - 1)
          |           |                             BYPASS, ON
    00 01 | 0000 000a | EQ1 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
```

```
    00 02 | 000a aaaa | EQ1 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 03 | 0000 00aa | EQ1 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 04 | 000a aaaa | EQ1 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 05 | 0000 000a | EQ2 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 06 | 000a aaaa | EQ2 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 07 | 0000 00aa | EQ2 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 08 | 000a aaaa | EQ2 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 09 | 0000 000a | EQ3 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 0A | 000a aaaa | EQ3 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 0B | 0000 00aa | EQ3 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 0C | 000a aaaa | EQ3 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 0D | 0000 000a | EQ4 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 0E | 000a aaaa | EQ4 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 0F | 0000 00aa | EQ4 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 10 | 000a aaaa | EQ4 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 11 | 0000 000a | EQ5 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 12 | 000a aaaa | EQ5 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 13 | 0000 00aa | EQ5 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 14 | 000a aaaa | EQ5 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 15 | 0000 000a | EQ6 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 16 | 000a aaaa | EQ6 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 17 | 0000 00aa | EQ6 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 18 | 000a aaaa | EQ6 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 19 | 0000 000a | EQ7 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 1A | 000a aaaa | EQ7 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 1B | 0000 00aa | EQ7 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 1C | 000a aaaa | EQ7 High Gain                  (0 - 30)
          |           |                               -15 - +15
    00 1D | 0000 000a | EQ8 Low Frequency              (0 - 1)
          |           |                           200, 400 [Hz]
    00 1E | 000a aaaa | EQ8 Low Gain                   (0 - 30)
          |           |                               -15 - +15
    00 1F | 0000 00aa | EQ8 High Frequency             (0 - 2)
          |           |                     2000, 4000, 8000 [Hz]
    00 20 | 000a aaaa | EQ8 High Gain                  (0 - 30)
          |           |                               -15 - +15
00 00 00 21 | Total Size
```

*1-1-3 System Part

```
Offset
Address                |              Description
    00 00 | 0aaa aaaa | Scale Tune for C               (0 - 127)
          |           |                               -64 - +63
    00 01 | 0aaa aaaa | Scale Tune for C#              (0 - 127)
          |           |                               -64 - +63
    00 02 | 0aaa aaaa | Scale Tune for D               (0 - 127)
          |           |                               -64 - +63
    00 03 | 0aaa aaaa | Scale Tune for D#              (0 - 127)
          |           |                               -64 - +63
    00 04 | 0aaa aaaa | Scale Tune for E               (0 - 127)
          |           |                               -64 - +63
    00 05 | 0aaa aaaa | Scale Tune for F               (0 - 127)
          |           |                               -64 - +63
    00 06 | 0aaa aaaa | Scale Tune for F#              (0 - 127)
          |           |                               -64 - +63
    00 07 | 0aaa aaaa | Scale Tune for G               (0 - 127)
          |           |                               -64 - +63
    00 08 | 0aaa aaaa | Scale Tune for G#              (0 - 127)
          |           |                               -64 - +63
    00 09 | 0aaa aaaa | Scale Tune for A               (0 - 127)
          |           |                               -64 - +63
    00 0A | 0aaa aaaa | Scale Tune for A#              (0 - 127)
          |           |                               -64 - +63
    00 0B | 0aaa aaaa | Scale Tune for B               (0 - 127)
          |           |                               -64 - +63
00 00 00 0C | Total Size
```

*1-2-1 Performance Common

```
Offset
Address                |              Description
    00 00 | 0aaa aaaa | Performance Name 1             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 01 | 0aaa aaaa | Performance Name 2             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 02 | 0aaa aaaa | Performance Name 3             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 03 | 0aaa aaaa | Performance Name 4             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 04 | 0aaa aaaa | Performance Name 5             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 05 | 0aaa aaaa | Performance Name 6             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 06 | 0aaa aaaa | Performance Name 7             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 07 | 0aaa aaaa | Performance Name 8             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 08 | 0aaa aaaa | Performance Name 9             (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 09 | 0aaa aaaa | Performance Name 10            (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 0A | 0aaa aaaa | Performance Name 11            (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 0B | 0aaa aaaa | Performance Name 12            (32 - 127)
          |           |                           32 - 127 [ASCII]
    00 0C | 00aa aaaa | Solo Part Select               (0 - 32)
          |           |                           OFF, 1 - 32
    00 0D | 000a aaaa | MFX Control Channel            (0 - 16)
          |           |                           1 - 16, OFF
    00 0E | 0000 000a | MFX Control MIDI1              (0 - 1)
          |           |                               OFF, ON
    00 0F | 0000 000a | MFX Control MIDI2              (0 - 1)
          |           |                               OFF, ON
```

	Address		Description	
	00 10	0aaa aaaa	Voice Reserve 1	(0 - 64) 0 - 63, FULL
	00 11	0aaa aaaa	Voice Reserve 2	(0 - 64) 0 - 63, FULL
	00 12	0aaa aaaa	Voice Reserve 3	(0 - 64) 0 - 63, FULL
	00 13	0aaa aaaa	Voice Reserve 4	(0 - 64) 0 - 63, FULL
	00 14	0aaa aaaa	Voice Reserve 5	(0 - 64) 0 - 63, FULL
	00 15	0aaa aaaa	Voice Reserve 6	(0 - 64) 0 - 63, FULL
	00 16	0aaa aaaa	Voice Reserve 7	(0 - 64) 0 - 63, FULL
	00 17	0aaa aaaa	Voice Reserve 8	(0 - 64) 0 - 63, FULL
	00 18	0aaa aaaa	Voice Reserve 9	(0 - 64) 0 - 63, FULL
	00 19	0aaa aaaa	Voice Reserve 10	(0 - 64) 0 - 63, FULL
	00 1A	0aaa aaaa	Voice Reserve 11	(0 - 64) 0 - 63, FULL
	00 1B	0aaa aaaa	Voice Reserve 12	(0 - 64) 0 - 63, FULL
	00 1C	0aaa aaaa	Voice Reserve 13	(0 - 64) 0 - 63, FULL
	00 1D	0aaa aaaa	Voice Reserve 14	(0 - 64) 0 - 63, FULL
	00 1E	0aaa aaaa	Voice Reserve 15	(0 - 64) 0 - 63, FULL
	00 1F	0aaa aaaa	Voice Reserve 16	(0 - 64) 0 - 63, FULL
	00 20	0aaa aaaa	Voice Reserve 17	(0 - 64) 0 - 63, FULL
	00 21	0aaa aaaa	Voice Reserve 18	(0 - 64) 0 - 63, FULL
	00 22	0aaa aaaa	Voice Reserve 19	(0 - 64) 0 - 63, FULL
	00 23	0aaa aaaa	Voice Reserve 20	(0 - 64) 0 - 63, FULL
	00 24	0aaa aaaa	Voice Reserve 21	(0 - 64) 0 - 63, FULL
	00 25	0aaa aaaa	Voice Reserve 22	(0 - 64) 0 - 63, FULL
	00 26	0aaa aaaa	Voice Reserve 23	(0 - 64) 0 - 63, FULL
	00 27	0aaa aaaa	Voice Reserve 24	(0 - 64) 0 - 63, FULL
	00 28	0aaa aaaa	Voice Reserve 25	(0 - 64) 0 - 63, FULL
	00 29	0aaa aaaa	Voice Reserve 26	(0 - 64) 0 - 63, FULL
	00 2A	0aaa aaaa	Voice Reserve 27	(0 - 64) 0 - 63, FULL
	00 2B	0aaa aaaa	Voice Reserve 28	(0 - 64) 0 - 63, FULL
	00 2C	0aaa aaaa	Voice Reserve 29	(0 - 64) 0 - 63, FULL
	00 2D	0aaa aaaa	Voice Reserve 30	(0 - 64) 0 - 63, FULL
	00 2E	0aaa aaaa	Voice Reserve 31	(0 - 64) 0 - 63, FULL
	00 2F	0aaa aaaa	Voice Reserve 32	(0 - 64) 0 - 63, FULL
	00 30	00aa aaaa	MFX1 Source	(0 - 32) PERFORM, 1 - 32
	00 31	00aa aaaa	MFX2 Source	(0 - 32) PERFORM, 1 - 32
	00 32	00aa aaaa	MFX3 Source	(0 - 32) PERFORM, 1 - 32
	00 33	00aa aaaa	Chorus Source	(0 - 32) PERFORM, 1 - 32
	00 34	00aa aaaa	Reverb Source	(0 - 32) PERFORM, 1 - 32
00 00 00 35			Total Size	

*1-2-2 Performance Common MFX

	Offset Address		Description	
	00 00	0aaa aaaa	MFX Type	(0 - 127)
	00 01	0aaa aaaa	MFX Dry Send Level	(0 - 127)
	00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
	00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
	00 04	0000 00aa	MFX Output Assign	(0 - 3) A, B, C, D
	00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127) -63 - +63
	00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127) -63 - +63
	00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127) -63 - +63
	00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127) -63 - +63
	00 0D	000a aaaa	MFX Control Assign 1	(0 - 16) OFF, 1 - 16
	00 0E	000a aaaa	MFX Control Assign 2	(0 - 16) OFF, 1 - 16
	00 0F	000a aaaa	MFX Control Assign 3	(0 - 16) OFF, 1 - 16
	00 10	000a aaaa	MFX Control Assign 4	(0 - 16) OFF, 1 - 16
#	00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
#	00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000
#	00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
#	00 1D	0000 aaaa 0000 bbbb		

		0000 cccc 0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
#	00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
#	00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000

```
#     01 0D | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | MFX Parameter 32              (12768 - 52768)
                                                        -20000 - +20000

 00 00 01 11 | Total Size
```

*1-2-3 Performance Common Chorus

```
 Offset
   Address  |                   Description
    00 00   | 0000 aaaa | Chorus Type                      (0 - 2)
    00 01   | 0aaa aaaa | Chorus Level                   (0 - 127)
    00 02   | 0000 00aa | Chorus Output Assign             (0 - 3)
                                                         A, B, C, D
    00 03   | 0000 00aa | Chorus Output Select             (0 - 2)
                                                       MAIN, REV, MAIN+REV

#   00 04   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 1           (12768 - 52768)
                                                        -20000 - +20000
#   00 08   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 2           (12768 - 52768)
                                                        -20000 - +20000
#   00 0C   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 3           (12768 - 52768)
                                                        -20000 - +20000
#   00 10   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 4           (12768 - 52768)
                                                        -20000 - +20000
#   00 14   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 5           (12768 - 52768)
                                                        -20000 - +20000
#   00 18   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 6           (12768 - 52768)
                                                        -20000 - +20000
#   00 1C   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 7           (12768 - 52768)
                                                        -20000 - +20000
#   00 20   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 8           (12768 - 52768)
                                                        -20000 - +20000
#   00 24   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 9           (12768 - 52768)
                                                        -20000 - +20000
#   00 28   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 10          (12768 - 52768)
                                                        -20000 - +20000
#   00 2C   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 11          (12768 - 52768)
                                                        -20000 - +20000
#   00 30   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Chorus Parameter 12          (12768 - 52768)
                                                        -20000 - +20000

 00 00 00 34 | Total Size
```

*1-2-4 Performance Common Reverb

```
 Offset
   Address  |                   Description
    00 00   | 0000 aaaa | Reverb Type                      (0 - 4)
    00 01   | 0aaa aaaa | Reverb Level                   (0 - 127)
    00 02   | 0000 00aa | Reverb Output Assign             (0 - 3)
                                                         A, B, C, D
#   00 03   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 1           (12768 - 52768)
                                                        -20000 - +20000
#   00 07   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 2           (12768 - 52768)
                                                        -20000 - +20000
#   00 0B   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 3           (12768 - 52768)
                                                        -20000 - +20000
#   00 0F   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 4           (12768 - 52768)
                                                        -20000 - +20000
#   00 13   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 5           (12768 - 52768)
                                                        -20000 - +20000
#   00 17   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 6           (12768 - 52768)
                                                        -20000 - +20000
#   00 1B   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 7           (12768 - 52768)
                                                        -20000 - +20000
#   00 1F   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 8           (12768 - 52768)
                                                        -20000 - +20000
#   00 23   | 0000 aaaa |
              0000 bbbb |
```

```
              0000 cccc |
              0000 dddd | Reverb Parameter 9           (12768 - 52768)
                                                        -20000 - +20000
#   00 27   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 10          (12768 - 52768)
                                                        -20000 - +20000
#   00 2B   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 11          (12768 - 52768)
                                                        -20000 - +20000
#   00 2F   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 12          (12768 - 52768)
                                                        -20000 - +20000
#   00 33   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 13          (12768 - 52768)
                                                        -20000 - +20000
#   00 37   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 14          (12768 - 52768)
                                                        -20000 - +20000
#   00 3B   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 15          (12768 - 52768)
                                                        -20000 - +20000
#   00 3F   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 16          (12768 - 52768)
                                                        -20000 - +20000
#   00 43   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 17          (12768 - 52768)
                                                        -20000 - +20000
#   00 47   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 18          (12768 - 52768)
                                                        -20000 - +20000
#   00 4B   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 19          (12768 - 52768)
                                                        -20000 - +20000
#   00 4F   | 0000 aaaa |
              0000 bbbb |
              0000 cccc |
              0000 dddd | Reverb Parameter 20          (12768 - 52768)
                                                        -20000 - +20000

 00 00 00 53 | Total Size
```

*1-2-5 Performance MIDI

```
 Offset
   Address  |                   Description
    00 00   | 0000 000a | Receive Program Change          (0 - 1)
                                                          OFF, ON
    00 01   | 0000 000a | Receive Bank Select             (0 - 1)
                                                          OFF, ON
    00 02   | 0000 000a | Receive Bender                  (0 - 1)
                                                          OFF, ON
    00 03   | 0000 000a | Receive Polyphonic Key Pressure (0 - 1)
                                                          OFF, ON
    00 04   | 0000 000a | Receive Channel Pressure        (0 - 1)
                                                          OFF, ON
    00 05   | 0000 000a | Receive Modulation              (0 - 1)
                                                          OFF, ON
    00 06   | 0000 000a | Receive Volume                  (0 - 1)
                                                          OFF, ON
    00 07   | 0000 000a | Receive Pan                     (0 - 1)
                                                          OFF, ON
    00 08   | 0000 000a | Receive Expression              (0 - 1)
                                                          OFF, ON
    00 09   | 0000 000a | Receive Hold-1                  (0 - 1)
                                                          OFF, ON

    00 0A   | 0000 000a | Phase Lock                      (0 - 1)
                                                          OFF, ON
    00 0B   | 0000 0aaa | Velocity Curve Type             (0 - 4)
                                                         OFF, 1 - 4

 00 00 00 0C | Total Size
```

*1-2-6 Performance Part

```
 Offset
   Address  |                   Description
    00 00   | 0000 aaaa | Receive Channel                 (0 - 15)
                                                          1 - 16
    00 01   | 0000 000a | Receive Switch                  (0 - 1)
                                                          OFF, ON
    00 02   | 0000 000a | Receive MIDI1                   (0 - 1)
                                                          OFF, ON
    00 03   | 0000 000a | Receive MIDI2                   (0 - 1)
                                                          OFF, ON

    00 04   | 0aaa aaaa | Patch Bank Select MSB (CC# 0)   (0 - 127)
    00 05   | 0aaa aaaa | Patch Bank Select LSB (CC# 32)  (0 - 127)
    00 06   | 0aaa aaaa | Patch Program Number (PC)       (0 - 127)

    00 07   | 0aaa aaaa | Part Level (CC# 7)              (0 - 127)
    00 08   | 0aaa aaaa | Part Pan (CC# 10)               (0 - 127)
                                                         L64 - 63R
    00 09   | 0aaa aaaa | Part Coarse Tune (RPN# 2)       (16 - 112)
                                                         -48 - +48
    00 0A   | 0aaa aaaa | Part Fine Tune (RPN# 1)         (14 - 114)
                                                         -50 - +50
    00 0B   | 0000 00aa | Part Mono/Poly (MONO ON/POLY ON) (0 - 2)
                                                       MONO, POLY, PATCH
    00 0C   | 0000 00aa | Part Legato Switch (CC# 68)      (0 - 2)
                                                       OFF, ON, PATCH
    00 0D   | 000a aaaa | Part Pitch Bend Range (RPN# 0)  (0 - 25)
                                                       0 - 24, PATCH
    00 0E   | 0000 00aa | Part Portamento Switch (CC# 65)  (0 - 2)
                                                       OFF, ON, PATCH
#   00 0F   | 0000 aaaa |
              0000 bbbb | Part Portamento Time (CC# 5)    (0 - 128)
                                                       0 - 127, PATCH
    00 11   | 0aaa aaaa | Part Cutoff Offset (CC# 74)     (0 - 127)
                                                         -64 - +63
    00 12   | 0aaa aaaa | Part Resonance Offset (CC# 71)  (0 - 127)
                                                         -64 - +63
    00 13   | 0aaa aaaa | Part Attack Time Offset (CC# 73) (0 - 127)
```

Offset Address		Description	
00 14	0aaa aaaa	Part Release Time Offset (CC# 72)	-64 - +63 (0 - 127) -64 - +63
00 15	0aaa aaaa	Part Octave Shift	(61 - 67) -3 - +3
00 16	0aaa aaaa	Part Velocity Sens Offset	(1 - 127) -63 - +63
00 17	0aaa aaaa	Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 18	0aaa aaaa	Keyboard Range Upper	(0 - 127) LOWER - G9
00 19	0aaa aaaa	Keyboard Fade Width Lower	(0 - 127)
00 1A	0aaa aaaa	Keyboard Fade Width Upper	(0 - 127)
00 1B	0000 000a	Mute Switch	(0 - 1) OFF, MUTE
00 1C	0aaa aaaa	Part Dry Send Level	(0 - 127)
00 1D	0aaa aaaa	Part Chorus Send Level (CC# 93)	(0 - 127)
00 1E	0aaa aaaa	Part Reverb Send Level (CC# 91)	(0 - 127)
00 1F	0000 aaaa	Part Output Assign	(0 - 13) MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8, PATCH
00 20	0000 00aa	Part Output MFX Select	(0 - 2) MFX1, MFX2, MFX3
00 00 00 21	Total Size		

*1-3-1-1 Patch Common

Offset Address		Description	
00 00	0aaa aaaa	Patch Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Patch Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Patch Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Patch Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Patch Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Patch Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Patch Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Patch Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Patch Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Patch Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Patch Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Patch Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	Patch Category	(0 - 127)
00 0D	0000 000a	Tone Type	(0 - 1) 4TONES, MULTI-PARTIAL
00 0E	0aaa aaaa	Patch Level	(0 - 127)
00 0F	0aaa aaaa	Patch Pan	(0 - 127) L64 - 63R
00 10	0000 000a	Patch Priority	(0 - 1) LAST, LOUDEST
00 11	0aaa aaaa	Patch Coarse Tune	(16 - 112) -48 - +48
00 12	0aaa aaaa	Patch Fine Tune	(14 - 114) -50 - +50
00 13	0000 0aaa	Octave Shift	(61 - 67) -3 - +3
00 14	0000 00aa	Stretch Tune Depth	(0 - 3) OFF, 1 - 3
00 15	0aaa aaaa	Analog Feel	(0 - 127)
00 16	0000 000a	Mono/Poly	(0 - 1) MONO, POLY
00 17	0000 000a	Legato Switch	(0 - 1) OFF, ON
00 18	0000 000a	Legato Retrigger	(0 - 1) OFF, ON
00 19	0000 000a	Portamento Switch	(0 - 1) OFF, ON
00 1A	0000 000a	Portamento Mode	(0 - 1) NORMAL, LEGATO
00 1B	0000 000a	Portamento Type	(0 - 1) RATE, TIME
00 1C	0000 000a	Portamento Start	(0 - 1) PITCH, NOTE
00 1D	0aaa aaaa	Portamento Time	(0 - 127)
00 1E	0000 000a	Patch Clock Source	(0 - 1) PATCH, SYSTEM
# 00 1F	0000 aaaa 0000 bbbb	Patch Tempo	(20 - 250)
00 21	0000 000a	One Shot Mode	(0 - 1) OFF, ON
00 22	0aaa aaaa	Cutoff Offset	(1 - 127) -63 - +63
00 23	0aaa aaaa	Resonance Offset	(1 - 127) -63 - +63
00 24	0aaa aaaa	Attack Time Offset	(1 - 127) -63 - +63
00 25	0aaa aaaa	Release Time Offset	(1 - 127) -63 - +63
00 26	0aaa aaaa	Velocity Sens Offset	(1 - 127) -63 - +63
00 27	0000 aaaa	Patch Output Assign	(0 - 13) MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8, TONE
00 28	0000 000a	TMT Control Switch	(0 - 1) OFF, ON
00 29	00aa aaaa	Pitch Bend Range Up	(0 - 48)
00 2A	00aa aaaa	Pitch Bend Range Down	(0 - 48)
00 2B	0aaa aaaa	Matrix Control 1 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 2C	00aa aaaa	Matrix Control 1 Destination 1	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 2D	0aaa aaaa	Matrix Control 1 Sens 1	(1 - 127) -63 - +63
00 2E	00aa aaaa	Matrix Control 1 Destination 2	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN,

Offset Address		Description	
			DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 2F	0aaa aaaa	Matrix Control 1 Sens 2	(1 - 127) -63 - +63
00 30	00aa aaaa	Matrix Control 1 Destination 3	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 31	0aaa aaaa	Matrix Control 1 Sens 3	(1 - 127) -63 - +63
00 32	00aa aaaa	Matrix Control 1 Destination 4	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 33	0aaa aaaa	Matrix Control 1 Sens 4	(1 - 127) -63 - +63
00 34	0aaa aaaa	Matrix Control 2 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 35	00aa aaaa	Matrix Control 2 Destination 1	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 36	0aaa aaaa	Matrix Control 2 Sens 1	(1 - 127) -63 - +63
00 37	00aa aaaa	Matrix Control 2 Destination 2	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 38	0aaa aaaa	Matrix Control 2 Sens 2	(1 - 127) -63 - +63
00 39	00aa aaaa	Matrix Control 2 Destination 3	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 3A	0aaa aaaa	Matrix Control 2 Sens 3	(1 - 127) -63 - +63
00 3B	00aa aaaa	Matrix Control 2 Destination 4	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 3C	0aaa aaaa	Matrix Control 2 Sens 4	(1 - 127) -63 - +63
00 3D	0aaa aaaa	Matrix Control 3 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 3E	00aa aaaa	Matrix Control 3 Destination 1	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 3F	0aaa aaaa	Matrix Control 3 Sens 1	(1 - 127) -63 - +63
00 40	00aa aaaa	Matrix Control 3 Destination 2	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 41	0aaa aaaa	Matrix Control 3 Sens 2	(1 - 127) -63 - +63
00 42	00aa aaaa	Matrix Control 3 Destination 3	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 43	0aaa aaaa	Matrix Control 3 Sens 3	(1 - 127) -63 - +63
00 44	00aa aaaa	Matrix Control 3 Destination 4	(0 - 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL,

```
                                             TVA-ATK, TVA-DCY, TVA-REL,
                                             TMT, FXM, MFX1, MFX2, MFX3, MFX4
     00 45 | 0aaa aaaa | Matrix Control 3 Sens 4              (1 - 127)
                                                               -63 - +63
     00 46 | 0aaa aaaa | Matrix Control 4 Source              (0 - 109)
                                       OFF, CC01 - CC31, CC33 - CC95,
                                       BEND, AFT, SYS1 - SYS4, VELOCITY,
                                       KEYFOLLOW, TEMPO, LFO1, LFO2,
                                       PIT-ENV, TVF-ENV, TVA-ENV
     00 47 | 00aa aaaa | Matrix Control 4 Destination 1        (0 - 33)
                                       OFF, PCH, CUT, RES, LEV, PAN,
                                       DRY, CHO, REV, PIT-LFO1,
                                       PIT-LFO2, TVF-LFO1, TVF-LFO2,
                                       TVA-LFO1, TVA-LFO2, PAN-LFO1,
                                       PAN-LFO2, LFO1-RATE, LFO2-RATE,
                                       PIT-ATK, PIT-DCY, PIT-REL,
                                       TVF-ATK, TVF-DCY, TVF-REL,
                                       TVA-ATK, TVA-DCY, TVA-REL,
                                       TMT, FXM, MFX1, MFX2, MFX3, MFX4
     00 48 | 0aaa aaaa | Matrix Control 4 Sens 1              (1 - 127)
                                                               -63 - +63
     00 49 | 00aa aaaa | Matrix Control 4 Destination 2        (0 - 33)
                                       OFF, PCH, CUT, RES, LEV, PAN,
                                       DRY, CHO, REV, PIT-LFO1,
                                       PIT-LFO2, TVF-LFO1, TVF-LFO2,
                                       TVA-LFO1, TVA-LFO2, PAN-LFO1,
                                       PAN-LFO2, LFO1-RATE, LFO2-RATE,
                                       PIT-ATK, PIT-DCY, PIT-REL,
                                       TVF-ATK, TVF-DCY, TVF-REL,
                                       TVA-ATK, TVA-DCY, TVA-REL,
                                       TMT, FXM, MFX1, MFX2, MFX3, MFX4
     00 4A | 0aaa aaaa | Matrix Control 4 Sens 2              (1 - 127)
                                                               -63 - +63
     00 4B | 00aa aaaa | Matrix Control 4 Destination 3        (0 - 33)
                                       OFF, PCH, CUT, RES, LEV, PAN,
                                       DRY, CHO, REV, PIT-LFO1,
                                       PIT-LFO2, TVF-LFO1, TVF-LFO2,
                                       TVA-LFO1, TVA-LFO2, PAN-LFO1,
                                       PAN-LFO2, LFO1-RATE, LFO2-RATE,
                                       PIT-ATK, PIT-DCY, PIT-REL,
                                       TVF-ATK, TVF-DCY, TVF-REL,
                                       TVA-ATK, TVA-DCY, TVA-REL,
                                       TMT, FXM, MFX1, MFX2, MFX3, MFX4
     00 4C | 0aaa aaaa | Matrix Control 4 Sens 3              (1 - 127)
                                                               -63 - +63
     00 4D | 00aa aaaa | Matrix Control 4 Destination 4        (0 - 33)
                                       OFF, PCH, CUT, RES, LEV, PAN,
                                       DRY, CHO, REV, PIT-LFO1,
                                       PIT-LFO2, TVF-LFO1, TVF-LFO2,
                                       TVA-LFO1, TVA-LFO2, PAN-LFO1,
                                       PAN-LFO2, LFO1-RATE, LFO2-RATE,
                                       PIT-ATK, PIT-DCY, PIT-REL,
                                       TVF-ATK, TVF-DCY, TVF-REL,
                                       TVA-ATK, TVA-DCY, TVA-REL,
                                       TMT, FXM, MFX1, MFX2, MFX3, MFX4
     00 4E | 0aaa aaaa | Matrix Control 4 Sens 4              (1 - 127)
                                                               -63 - +63
+------------+------------------------------------------------------------+
| 00 00 00 4F | Total Size
```

*1-3-1-2 Patch Common MFX

```
+------------------------------------------------------------------------+
| Offset
|   Address    |               Description
+------------------------------------------------------------------------+
     00 00 | 0aaa aaaa | MFX Type                             (0 - 127)
     00 01 | 0aaa aaaa | MFX Dry Send Level                   (0 - 127)
     00 02 | 0aaa aaaa | MFX Chorus Send Level                (0 - 127)
     00 03 | 0aaa aaaa | MFX Reverb Send Level                (0 - 127)
     00 04 | 0000 00aa | MFX Output Assign                      (0 - 3)
                                                              A, B, C, D
     00 05 | 0aaa aaaa | MFX Control 1 Source                 (0 - 101)
                                       OFF, CC01 - CC31, CC33 - CC95,
                                       BEND, AFT, SYS1 - SYS4
     00 06 | 0aaa aaaa | MFX Control 1 Sens                   (1 - 127)
                                                               -63 - +63
     00 07 | 0aaa aaaa | MFX Control 2 Source                 (0 - 101)
                                       OFF, CC01 - CC31, CC33 - CC95,
                                       BEND, AFT, SYS1 - SYS4
     00 08 | 0aaa aaaa | MFX Control 2 Sens                   (1 - 127)
                                                               -63 - +63
     00 09 | 0aaa aaaa | MFX Control 3 Source                 (0 - 101)
                                       OFF, CC01 - CC31, CC33 - CC95,
                                       BEND, AFT, SYS1 - SYS4
     00 0A | 0aaa aaaa | MFX Control 3 Sens                   (1 - 127)
                                                               -63 - +63
     00 0B | 0aaa aaaa | MFX Control 4 Source                 (0 - 101)
                                       OFF, CC01 - CC31, CC33 - CC95,
                                       BEND, AFT, SYS1 - SYS4
     00 0C | 0aaa aaaa | MFX Control 4 Sens                   (1 - 127)
                                                               -63 - +63
     00 0D | 000a aaaa | MFX Control Assign 1                  (0 - 16)
                                                              OFF, 1 - 16
     00 0E | 000a aaaa | MFX Control Assign 2                  (0 - 16)
                                                              OFF, 1 - 16
     00 0F | 000a aaaa | MFX Control Assign 3                  (0 - 16)
                                                              OFF, 1 - 16
     00 10 | 000a aaaa | MFX Control Assign 4                  (0 - 16)
                                                              OFF, 1 - 16
#    00 11 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 1              (12768 - 52768)
                                                      -20000 - +20000
#    00 15 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 2              (12768 - 52768)
                                                      -20000 - +20000
#    00 19 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 3              (12768 - 52768)
                                                      -20000 - +20000
#    00 1D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 4              (12768 - 52768)
                                                      -20000 - +20000
#    00 21 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 5              (12768 - 52768)
                                                      -20000 - +20000
#    00 25 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 6              (12768 - 52768)
                                                      -20000 - +20000
#    00 29 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 7              (12768 - 52768)
                                                      -20000 - +20000
```

```
#    00 2D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 8              (12768 - 52768)
                                                      -20000 - +20000
#    00 31 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 9              (12768 - 52768)
                                                      -20000 - +20000
#    00 35 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 10             (12768 - 52768)
                                                      -20000 - +20000
#    00 39 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 11             (12768 - 52768)
                                                      -20000 - +20000
#    00 3D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 12             (12768 - 52768)
                                                      -20000 - +20000
#    00 41 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 13             (12768 - 52768)
                                                      -20000 - +20000
#    00 45 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 14             (12768 - 52768)
                                                      -20000 - +20000
#    00 49 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 15             (12768 - 52768)
                                                      -20000 - +20000
#    00 4D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 16             (12768 - 52768)
                                                      -20000 - +20000
#    00 51 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 17             (12768 - 52768)
                                                      -20000 - +20000
#    00 55 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 18             (12768 - 52768)
                                                      -20000 - +20000
#    00 59 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 19             (12768 - 52768)
                                                      -20000 - +20000
#    00 5D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 20             (12768 - 52768)
                                                      -20000 - +20000
#    00 61 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 21             (12768 - 52768)
                                                      -20000 - +20000
#    00 65 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 22             (12768 - 52768)
                                                      -20000 - +20000
#    00 69 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 23             (12768 - 52768)
                                                      -20000 - +20000
#    00 6D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 24             (12768 - 52768)
                                                      -20000 - +20000
#    00 71 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 25             (12768 - 52768)
                                                      -20000 - +20000
#    00 75 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 26             (12768 - 52768)
                                                      -20000 - +20000
#    00 79 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 27             (12768 - 52768)
                                                      -20000 - +20000
#    00 7D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 28             (12768 - 52768)
                                                      -20000 - +20000
#    01 01 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 29             (12768 - 52768)
                                                      -20000 - +20000
#    01 05 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 30             (12768 - 52768)
                                                      -20000 - +20000
#    01 09 | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 31             (12768 - 52768)
                                                      -20000 - +20000
#    01 0D | 0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd | MFX Parameter 32             (12768 - 52768)
                                                      -20000 - +20000
+------------+------------------------------------------------------------+
| 00 00 01 11 | Total Size
```

*1-3-1-3 Patch Common Chorus

```
+------------------------------------------------------------------------+
| Offset
|   Address    |               Description
+------------------------------------------------------------------------+
     00 00 | 0000 aaaa | Chorus Type                           (0 - 2)
     00 01 | 0aaa aaaa | Chorus Level                        (0 - 127)
     00 02 | 0000 00aa | Chorus Output Assign                  (0 - 3)
                                                              A, B, C, D
```

	Offset Address		Description	
	00 03	0000 00aa	Chorus Output Select	(0 – 2)
				MAIN, REV, MAIN+REV
#	00 04	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 1	(12768 – 52768)
				-20000 – +20000
#	00 08	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 2	(12768 – 52768)
				-20000 – +20000
#	00 0C	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 3	(12768 – 52768)
				-20000 – +20000
#	00 10	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 4	(12768 – 52768)
				-20000 – +20000
#	00 14	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 5	(12768 – 52768)
				-20000 – +20000
#	00 18	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 6	(12768 – 52768)
				-20000 – +20000
#	00 1C	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 7	(12768 – 52768)
				-20000 – +20000
#	00 20	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 8	(12768 – 52768)
				-20000 – +20000
#	00 24	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 9	(12768 – 52768)
				-20000 – +20000
#	00 28	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 10	(12768 – 52768)
				-20000 – +20000
#	00 2C	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 11	(12768 – 52768)
				-20000 – +20000
#	00 30	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Chorus Parameter 12	(12768 – 52768)
				-20000 – +20000
	00 00 00 34	Total Size		

*1-3-1-4 Patch Common Reverb

	Offset Address		Description	
	00 00	0000 aaaa	Reverb Type	(0 – 4)
	00 01	0aaa aaaa	Reverb Level	(0 – 127)
	00 02	0000 00aa	Reverb Output Assign	(0 – 3)
				A, B, C, D
#	00 03	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 1	(12768 – 52768)
				-20000 – +20000
#	00 07	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 2	(12768 – 52768)
				-20000 – +20000
#	00 0B	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 3	(12768 – 52768)
				-20000 – +20000
#	00 0F	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 4	(12768 – 52768)
				-20000 – +20000
#	00 13	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 5	(12768 – 52768)
				-20000 – +20000
#	00 17	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 6	(12768 – 52768)
				-20000 – +20000
#	00 1B	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 7	(12768 – 52768)
				-20000 – +20000
#	00 1F	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 8	(12768 – 52768)
				-20000 – +20000
#	00 23	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 9	(12768 – 52768)
				-20000 – +20000
#	00 27	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 10	(12768 – 52768)
				-20000 – +20000
#	00 2B	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 11	(12768 – 52768)
				-20000 – +20000
#	00 2F	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 12	(12768 – 52768)
				-20000 – +20000
#	00 33	0000 aaaa		

(right column)

	Offset Address		Description	
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 13	(12768 – 52768)
				-20000 – +20000
#	00 37	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 14	(12768 – 52768)
				-20000 – +20000
#	00 3B	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 15	(12768 – 52768)
				-20000 – +20000
#	00 3F	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 16	(12768 – 52768)
				-20000 – +20000
#	00 43	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 17	(12768 – 52768)
				-20000 – +20000
#	00 47	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 18	(12768 – 52768)
				-20000 – +20000
#	00 4B	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 19	(12768 – 52768)
				-20000 – +20000
#	00 4F	0000 aaaa		
		0000 bbbb		
		0000 cccc		
		0000 dddd	Reverb Parameter 20	(12768 – 52768)
				-20000 – +20000
	00 00 00 53	Total Size		

*1-3-1-5 Patch TMT (Tone Mix Table)

Offset Address		Description	
00 00	0000 aaaa	Structure Type 1 & 2	(0 – 9)
			1 – 10
00 01	0000 00aa	Booster 1 & 2	(0 – 3)
			0, +6, +12, +18 [dB]
00 02	0000 aaaa	Structure Type 3 & 4	(0 – 9)
			1 – 10
00 03	0000 00aa	Booster 3 & 4	(0 – 3)
			0, +6, +12, +18 [dB]
00 04	0000 00aa	TMT Velocity Control	(0 – 2)
			OFF, ON, RANDOM
00 05	0000 000a	TMT1 Tone Switch	(0 – 1)
			OFF, ON
00 06	0aaa aaaa	TMT1 Keyboard Range Lower	(0 – 127)
			C-1 – UPPER
00 07	0aaa aaaa	TMT1 Keyboard Range Upper	(0 – 127)
			LOWER – G9
00 08	0aaa aaaa	TMT1 Keyboard Fade Width Lower	(0 – 127)
00 09	0aaa aaaa	TMT1 Keyboard Fade Width Upper	(0 – 127)
00 0A	0aaa aaaa	TMT1 Velocity Range Lower	(1 – 127)
			1 – UPPER
00 0B	0aaa aaaa	TMT1 Velocity Range Upper	(1 – 127)
			LOWER – 127
00 0C	0aaa aaaa	TMT1 Velocity Fade Width Lower	(0 – 127)
00 0D	0aaa aaaa	TMT1 Velocity Fade Width Upper	(0 – 127)
00 0E	0000 000a	TMT2 Tone Switch	(0 – 1)
			OFF, ON
00 0F	0aaa aaaa	TMT2 Keyboard Range Lower	(0 – 127)
			C-1 – UPPER
00 10	0aaa aaaa	TMT2 Keyboard Range Upper	(0 – 127)
			LOWER – G9
00 11	0aaa aaaa	TMT2 Keyboard Fade Width Lower	(0 – 127)
00 12	0aaa aaaa	TMT2 Keyboard Fade Width Upper	(0 – 127)
00 13	0aaa aaaa	TMT2 Velocity Range Lower	(1 – 127)
			1 – UPPER
00 14	0aaa aaaa	TMT2 Velocity Range Upper	(1 – 127)
			LOWER – 127
00 15	0aaa aaaa	TMT2 Velocity Fade Width Lower	(0 – 127)
00 16	0aaa aaaa	TMT2 Velocity Fade Width Upper	(0 – 127)
00 17	0000 000a	TMT3 Tone Switch	(0 – 1)
			OFF, ON
00 18	0aaa aaaa	TMT3 Keyboard Range Lower	(0 – 127)
			C-1 – UPPER
00 19	0aaa aaaa	TMT3 Keyboard Range Upper	(0 – 127)
			LOWER – G9
00 1A	0aaa aaaa	TMT3 Keyboard Fade Width Lower	(0 – 127)
00 1B	0aaa aaaa	TMT3 Keyboard Fade Width Upper	(0 – 127)
00 1C	0aaa aaaa	TMT3 Velocity Range Lower	(1 – 127)
			1 – UPPER
00 1D	0aaa aaaa	TMT3 Velocity Range Upper	(1 – 127)
			LOWER – 127
00 1E	0aaa aaaa	TMT3 Velocity Fade Width Lower	(0 – 127)
00 1F	0aaa aaaa	TMT3 Velocity Fade Width Upper	(0 – 127)
00 20	0000 000a	TMT4 Tone Switch	(0 – 1)
			OFF, ON
00 21	0aaa aaaa	TMT4 Keyboard Range Lower	(0 – 127)
			C-1 – UPPER
00 22	0aaa aaaa	TMT4 Keyboard Range Upper	(0 – 127)
			LOWER – G9
00 23	0aaa aaaa	TMT4 Keyboard Fade Width Lower	(0 – 127)
00 24	0aaa aaaa	TMT4 Keyboard Fade Width Upper	(0 – 127)
00 25	0aaa aaaa	TMT4 Velocity Range Lower	(1 – 127)
			1 – UPPER
00 26	0aaa aaaa	TMT4 Velocity Range Upper	(1 – 127)
			LOWER – 127
00 27	0aaa aaaa	TMT4 Velocity Fade Width Lower	(0 – 127)
00 28	0aaa aaaa	TMT4 Velocity Fade Width Upper	(0 – 127)
00 00 00 29	Total Size		

*1-3-1-6 Patch Tone

Offset Address		Description	
00 00	0aaa aaaa	Tone Level	(0 – 127)
00 01	0aaa aaaa	Tone Coarse Tune	(16 – 112)
			-48 – +48
00 02	0aaa aaaa	Tone Fine Tune	(14 – 114)
			-50 – +50
00 03	000a aaaa	Tone Random Pitch Depth	(0 – 30)
			0, 1, 2, 3, 4, 5, 6, 7, 8, 9,
			10, 20, 30, 40, 50, 60, 70, 80,
			90, 100, 200, 300, 400, 500,

Offset Address		Description	Value
			600, 700, 800, 900, 1000, 1100, 1200
00 04	0aaa aaaa	Tone Pan	(0 - 127)
			L64 - 63R
00 05	000a aaaa	Tone Pan Keyfollow	(54 - 74)
			-100 - +100
00 06	00aa aaaa	Tone Random Pan Depth	(0 - 63)
00 07	0aaa aaaa	Tone Alternate Pan Depth	(1 - 127)
			L63 - 63R
00 08	0000 000a	Tone Env Mode	(0 - 1)
			NO-SUS, SUSTAIN
00 09	0000 00aa	Tone Delay Mode	(0 - 3)
			NORMAL, HOLD, KEY-OFF-NORMAL, KEY-OFF-DECAY
# 00 0A	0000 aaaa 0000 bbbb	Tone Delay Time	(0 - 149)
			0 - 127, MUSICAL-NOTES
00 0C	0aaa aaaa	Tone Dry Send Level	(0 - 127)
00 0D	0aaa aaaa	Tone Chorus Send Level (MFX)	(0 - 127)
00 0E	0aaa aaaa	Tone Reverb Send Level (MFX)	(0 - 127)
00 0F	0aaa aaaa	Tone Chorus Send Level (non MFX)	(0 - 127)
00 10	0aaa aaaa	Tone Reverb Send Level (non MFX)	(0 - 127)
00 11	0000 aaaa	Tone Output Assign	(0 - 12)
			MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8
00 12	0000 000a	Tone Receive Bender	(0 - 1)
			OFF, ON
00 13	0000 000a	Tone Receive Expression	(0 - 1)
			OFF, ON
00 14	0000 000a	Tone Receive Hold-1	(0 - 1)
			OFF, ON
00 15	0000 000a	Tone Receive Pan Mode	(0 - 1)
			CONTINUOUS, KEY-ON
00 16	0000 000a	Tone Redamper Switch	(0 - 1)
			OFF, ON
00 17	0000 00aa	Tone Control 1 Switch 1	(0 - 2)
			OFF, ON, REVERSE
00 18	0000 00aa	Tone Control 1 Switch 2	(0 - 2)
			OFF, ON, REVERSE
00 19	0000 00aa	Tone Control 1 Switch 3	(0 - 2)
			OFF, ON, REVERSE
00 1A	0000 00aa	Tone Control 1 Switch 4	(0 - 2)
			OFF, ON, REVERSE
00 1B	0000 00aa	Tone Control 2 Switch 1	(0 - 2)
			OFF, ON, REVERSE
00 1C	0000 00aa	Tone Control 2 Switch 2	(0 - 2)
			OFF, ON, REVERSE
00 1D	0000 00aa	Tone Control 2 Switch 3	(0 - 2)
			OFF, ON, REVERSE
00 1E	0000 00aa	Tone Control 2 Switch 4	(0 - 2)
			OFF, ON, REVERSE
00 1F	0000 00aa	Tone Control 3 Switch 1	(0 - 2)
			OFF, ON, REVERSE
00 20	0000 00aa	Tone Control 3 Switch 2	(0 - 2)
			OFF, ON, REVERSE
00 21	0000 00aa	Tone Control 3 Switch 3	(0 - 2)
			OFF, ON, REVERSE
00 22	0000 00aa	Tone Control 3 Switch 4	(0 - 2)
			OFF, ON, REVERSE
00 23	0000 00aa	Tone Control 4 Switch 1	(0 - 2)
			OFF, ON, REVERSE
00 24	0000 00aa	Tone Control 4 Switch 2	(0 - 2)
			OFF, ON, REVERSE
00 25	0000 00aa	Tone Control 4 Switch 3	(0 - 2)
			OFF, ON, REVERSE
00 26	0000 00aa	Tone Control 4 Switch 4	(0 - 2)
			OFF, ON, REVERSE
00 27	0000 00aa	Wave Group Type	(0 - 3)
			INT-WAVE, SRJV80-EXP, SRX-EXP, SAMPLE
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Group ID	(0 - 16384)
			OFF, 1 - 16384
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number L (Mono)	(0 - 16384)
			OFF, 1 - 16384
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number R	(0 - 16384)
			OFF, 1 - 16384
00 34	0000 00aa	Wave Gain	(0 - 3)
			-6, 0, +6, +12 [dB]
00 35	0000 000a	Wave FXM Switch	(0 - 1)
			OFF, ON
00 36	0000 00aa	Wave FXM Color	(0 - 3)
			1 - 4
00 37	000a aaaa	Wave FXM Depth	(0 - 16)
00 38	0000 000a	Wave Tempo Sync	(0 - 1)
			OFF, ON
00 39	00aa aaaa	Wave Pitch Keyfollow	(44 - 84)
			-200 - +200
00 3A	000a aaaa	Pitch Env Depth	(52 - 76)
			-12 - +12
00 3B	0aaa aaaa	Pitch Env Velocity Sens	(1 - 127)
			-63 - +63
00 3C	0aaa aaaa	Pitch Env Time 1 Velocity Sens	(1 - 127)
			-63 - +63
00 3D	0aaa aaaa	Pitch Env Time 4 Velocity Sens	(1 - 127)
			-63 - +63
00 3E	000a aaaa	Pitch Env Time Keyfollow	(54 - 74)
			-100 - +100
00 3F	0aaa aaaa	Pitch Env Time 1	(0 - 127)
00 40	0aaa aaaa	Pitch Env Time 2	(0 - 127)
00 41	0aaa aaaa	Pitch Env Time 3	(0 - 127)
00 42	0aaa aaaa	Pitch Env Time 4	(0 - 127)
00 43	0aaa aaaa	Pitch Env Level 0	(1 - 127)
			-63 - +63
00 44	0aaa aaaa	Pitch Env Level 1	(1 - 127)
			-63 - +63
00 45	0aaa aaaa	Pitch Env Level 2	(1 - 127)
			-63 - +63
00 46	0aaa aaaa	Pitch Env Level 3	(1 - 127)
			-63 - +63
00 47	0aaa aaaa	Pitch Env Level 4	(1 - 127)
			-63 - +63
00 48	0000 0aaa	TVF Filter Type	(0 - 6)
			OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
00 49	0aaa aaaa	TVF Cutoff Frequency	(0 - 127)
00 4A	00aa aaaa	TVF Cutoff Keyfollow	(44 - 84)
			-200 - +200
00 4B	0000 0aaa	TVF Cutoff Velocity Curve	(0 - 7)
			FIXED, 1 - 7
00 4C	0aaa aaaa	TVF Cutoff Velocity Sens	(1 - 127)
			-63 - +63
00 4D	0aaa aaaa	TVF Resonance	(0 - 127)
00 4E	0aaa aaaa	TVF Resonance Velocity Sens	(1 - 127)

Offset Address		Description	Value
00 4F	0aaa aaaa	TVF Env Depth	(1 - 127)
			-63 - +63
00 50	0000 0aaa	TVF Env Velocity Curve	(0 - 7)
			FIXED, 1 - 7
00 51	0aaa aaaa	TVF Env Velocity Sens	(1 - 127)
			-63 - +63
00 52	0aaa aaaa	TVF Env Time 1 Velocity Sens	(1 - 127)
			-63 - +63
00 53	0aaa aaaa	TVF Env Time 4 Velocity Sens	(1 - 127)
			-63 - +63
00 54	000a aaaa	TVF Env Time Keyfollow	(54 - 74)
			-100 - +100
00 55	0aaa aaaa	TVF Env Time 1	(0 - 127)
00 56	0aaa aaaa	TVF Env Time 2	(0 - 127)
00 57	0aaa aaaa	TVF Env Time 3	(0 - 127)
00 58	0aaa aaaa	TVF Env Time 4	(0 - 127)
00 59	0aaa aaaa	TVF Env Level 0	(0 - 127)
00 5A	0aaa aaaa	TVF Env Level 1	(0 - 127)
00 5B	0aaa aaaa	TVF Env Level 2	(0 - 127)
00 5C	0aaa aaaa	TVF Env Level 3	(0 - 127)
00 5D	0aaa aaaa	TVF Env Level 4	(0 - 127)
00 5E	000a aaaa	Bias Level	(54 - 74)
			-100 - +100
00 5F	0aaa aaaa	Bias Position	(0 - 127)
			C-1 - G9
00 60	0000 00aa	Bias Direction	(0 - 3)
			LOWER, UPPER, LOWER&UPPER, ALL
00 61	0000 0aaa	TVA Level Velocity Curve	(0 - 7)
			FIXED, 1 - 7
00 62	0aaa aaaa	TVA Level Velocity Sens	(1 - 127)
			-63 - +63
00 63	0aaa aaaa	TVA Env Time 1 Velocity Sens	(1 - 127)
			-63 - +63
00 64	0aaa aaaa	TVA Env Time 4 Velocity Sens	(1 - 127)
			-63 - +63
00 65	000a aaaa	TVA Env Time Keyfollow	(54 - 74)
			-100 - +100
00 66	0aaa aaaa	TVA Env Time 1	(0 - 127)
00 67	0aaa aaaa	TVA Env Time 2	(0 - 127)
00 68	0aaa aaaa	TVA Env Time 3	(0 - 127)
00 69	0aaa aaaa	TVA Env Time 4	(0 - 127)
00 6A	0aaa aaaa	TVA Env Level 1	(0 - 127)
00 6B	0aaa aaaa	TVA Env Level 2	(0 - 127)
00 6C	0aaa aaaa	TVA Env Level 3	(0 - 127)
00 6D	0000 aaaa	LFO1 Wave Form	(0 - 10)
			SIN, TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H CHS
# 00 6E	0000 aaaa 0000 bbbb	LFO1 Rate	(0 - 149)
			0 - 127, MUSICAL-NOTES
00 70	0000 0aaa	LFO1 Offset	(0 - 4)
			-100, -50, 0, +50, +100
00 71	0aaa aaaa	LFO1 Rate Detune	(0 - 127)
00 72	0aaa aaaa	LFO1 Delay Time	(0 - 127)
00 73	000a aaaa	LFO1 Delay Time Keyfollow	(54 - 74)
			-100 - +100
00 74	0000 00aa	LFO1 Fade Mode	(0 - 3)
			ON-IN, ON-OUT, OFF-IN, OFF-OUT
00 75	0aaa aaaa	LFO1 Fade Time	(0 - 127)
00 76	0000 000a	LFO1 Key Trigger	(0 - 1)
			OFF, ON
00 77	0aaa aaaa	LFO1 Pitch Depth	(1 - 127)
			-63 - +63
00 78	0aaa aaaa	LFO1 TVF Depth	(1 - 127)
			-63 - +63
00 79	0aaa aaaa	LFO1 TVA Depth	(1 - 127)
			-63 - +63
00 7A	0aaa aaaa	LFO1 Pan Depth	(1 - 127)
			-63 - +63
00 7B	0000 aaaa	LFO2 Wave Form	(0 - 10)
			SIN, TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H CHS
# 00 7C	0000 aaaa 0000 bbbb	LFO2 Rate	(0 - 149)
			0 - 127, MUSICAL-NOTES
00 7E	0000 0aaa	LFO2 Offset	(0 - 4)
			-100, -50, 0, +50, +100
00 7F	0aaa aaaa	LFO2 Rate Detune	(0 - 127)
01 00	0aaa aaaa	LFO2 Delay Time	(0 - 127)
01 01	000a aaaa	LFO2 Delay Time Keyfollow	(54 - 74)
			-100 - +100
01 02	0000 00aa	LFO2 Fade Mode	(0 - 3)
			ON-IN, ON-OUT, OFF-IN, OFF-OUT
01 03	0aaa aaaa	LFO2 Fade Time	(0 - 127)
01 04	0000 000a	LFO2 Key Trigger	(0 - 1)
			OFF, ON
01 05	0aaa aaaa	LFO2 Pitch Depth	(1 - 127)
			-63 - +63
01 06	0aaa aaaa	LFO2 TVF Depth	(1 - 127)
			-63 - +63
01 07	0aaa aaaa	LFO2 TVA Depth	(1 - 127)
			-63 - +63
01 08	0aaa aaaa	LFO2 Pan Depth	(1 - 127)
			-63 - +63
00 00 01 09		Total Size	

*1-3-1-7 Patch Split Key

Offset Address		Description	Value
# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Partial Number	(0 - 4096)
			OFF, 1 - 4096
00 04	0000 000a	Assign Type	(0 - 1)
			MULTI, SINGLE
00 05	000a aaaa	Mute Group	(0 - 31)
			OFF, 1 - 31
00 06	0aaa aaaa	Split Dry Send Level	(0 - 127)
00 07	0aaa aaaa	Split Chorus Send Level (MFX)	(0 - 127)
00 08	0aaa aaaa	Split Reverb Send Level (MFX)	(0 - 127)
00 09	0aaa aaaa	Split Chorus Send Level (non MFX)	(0 - 127)
00 0A	0aaa aaaa	Split Reverb Send Level (non MFX)	(0 - 127)
00 0B	0000 aaaa	Split Output Assign	(0 - 12)
			MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8
00 00 00 0C		Total Size	

*1-3-2-1 Rhythm Common

Offset Address		Description	Value
00 00	0aaa aaaa	Rhythm Name 1	(32 - 127)

	Offset Address		Description	
	00 01	0aaa aaaa	Rhythm Name 2	32 - 127 [ASCII] (32 - 127)
	00 02	0aaa aaaa	Rhythm Name 3	32 - 127 [ASCII] (32 - 127)
	00 03	0aaa aaaa	Rhythm Name 4	32 - 127 [ASCII] (32 - 127)
	00 04	0aaa aaaa	Rhythm Name 5	32 - 127 [ASCII] (32 - 127)
	00 05	0aaa aaaa	Rhythm Name 6	32 - 127 [ASCII] (32 - 127)
	00 06	0aaa aaaa	Rhythm Name 7	32 - 127 [ASCII] (32 - 127)
	00 07	0aaa aaaa	Rhythm Name 8	32 - 127 [ASCII] (32 - 127)
	00 08	0aaa aaaa	Rhythm Name 9	32 - 127 [ASCII] (32 - 127)
	00 09	0aaa aaaa	Rhythm Name 10	32 - 127 [ASCII] (32 - 127)
	00 0A	0aaa aaaa	Rhythm Name 11	32 - 127 [ASCII] (32 - 127)
	00 0B	0aaa aaaa	Rhythm Name 12	32 - 127 [ASCII] (32 - 127)
	00 0C	0aaa aaaa	Rhythm Level	(0 - 127)
	00 0D	0000 000a	Rhythm Clock Source	(0 - 1) RHYTHM, SYSTEM
#	00 0E	0000 aaaa 0000 bbbb	Rhythm Tempo	(20 - 250)
	00 10	0000 000a	One Shot Mode	(0 - 1) OFF, ON
	00 11	0000 aaaa	Rhythm Output Assign	(0 - 13) MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8, TONE
00 00 00 12	Total Size			

*1-3-2-2 Rhythm Common MFX

	Offset Address		Description	
	00 00	0aaa aaaa	MFX Type	(0 - 127)
	00 01	0aaa aaaa	MFX Dry Send Level	(0 - 127)
	00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
	00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
	00 04	0000 00aa	MFX Output Assign	(0 - 3) A, B, C, D
	00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127) -63 - +63
	00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127) -63 - +63
	00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127) -63 - +63
	00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127) -63 - +63
	00 0D	000a aaaa	MFX Control Assign 1	(0 - 16) OFF, 1 - 16
	00 0E	000a aaaa	MFX Control Assign 2	(0 - 16) OFF, 1 - 16
	00 0F	000a aaaa	MFX Control Assign 3	(0 - 16) OFF, 1 - 16
	00 10	000a aaaa	MFX Control Assign 4	(0 - 16) OFF, 1 - 16
#	00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
#	00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000
#	00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
#	00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
#	00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
#	00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc		

	Offset Address		Description	
		0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
#	01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
00 00 01 11	Total Size			

*1-3-2-3 Rhythm Common Chorus

	Offset Address		Description	
	00 00	0000 aaaa	Chorus Type	(0 - 2)
	00 01	0aaa aaaa	Chorus Level	(0 - 127)
	00 02	0000 00aa	Chorus Output Assign	(0 - 3) A, B, C, D
	00 03	0000 00aa	Chorus Output Select	(0 - 2) MAIN, REV, MAIN+REV
#	00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1	(12768 - 52768) -20000 - +20000
#	00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2	(12768 - 52768) -20000 - +20000
#	00 0C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 3	(12768 - 52768) -20000 - +20000
#	00 10	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 4	(12768 - 52768) -20000 - +20000

#	00 14	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 5	(12768 – 52768) -20000 – +20000
#	00 18	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 6	(12768 – 52768) -20000 – +20000
#	00 1C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 7	(12768 – 52768) -20000 – +20000
#	00 20	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 8	(12768 – 52768) -20000 – +20000
#	00 24	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 9	(12768 – 52768) -20000 – +20000
#	00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 10	(12768 – 52768) -20000 – +20000
#	00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 11	(12768 – 52768) -20000 – +20000
#	00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 12	(12768 – 52768) -20000 – +20000
	00 00 00 34	Total Size		

*1-3-2-4 Rhythm Common Reverb

	Offset Address		Description	
	00 00	0000 aaaa	Reverb Type	(0 – 4)
	00 01	0aaa aaaa	Reverb Level	(0 – 127)
	00 02	0000 00aa	Reverb Output Assign	(0 – 3) A, B, C, D
#	00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 – 52768) -20000 – +20000
#	00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 – 52768) -20000 – +20000
#	00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 – 52768) -20000 – +20000
#	00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 – 52768) -20000 – +20000
#	00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 – 52768) -20000 – +20000
#	00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 – 52768) -20000 – +20000
#	00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 – 52768) -20000 – +20000
#	00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 – 52768) -20000 – +20000
#	00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 – 52768) -20000 – +20000
#	00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 – 52768) -20000 – +20000
#	00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 – 52768) -20000 – +20000
#	00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 – 52768) -20000 – +20000
#	00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 – 52768) -20000 – +20000
#	00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 – 52768) -20000 – +20000
#	00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 – 52768) -20000 – +20000
#	00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 – 52768) -20000 – +20000
#	00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 – 52768)

#	00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	-20000 – +20000 (12768 – 52768) -20000 – +20000
#	00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 – 52768) -20000 – +20000
#	00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 – 52768) -20000 – +20000
	00 00 00 53	Total Size		

*1-3-2-5 Rhythm Tone

Offset Address		Description	
00 00	0aaa aaaa	Tone Name 1	(32 – 127) 32 – 127 [ASCII]
00 01	0aaa aaaa	Tone Name 2	(32 – 127) 32 – 127 [ASCII]
00 02	0aaa aaaa	Tone Name 3	(32 – 127) 32 – 127 [ASCII]
00 03	0aaa aaaa	Tone Name 4	(32 – 127) 32 – 127 [ASCII]
00 04	0aaa aaaa	Tone Name 5	(32 – 127) 32 – 127 [ASCII]
00 05	0aaa aaaa	Tone Name 6	(32 – 127) 32 – 127 [ASCII]
00 06	0aaa aaaa	Tone Name 7	(32 – 127) 32 – 127 [ASCII]
00 07	0aaa aaaa	Tone Name 8	(32 – 127) 32 – 127 [ASCII]
00 08	0aaa aaaa	Tone Name 9	(32 – 127) 32 – 127 [ASCII]
00 09	0aaa aaaa	Tone Name 10	(32 – 127) 32 – 127 [ASCII]
00 0A	0aaa aaaa	Tone Name 11	(32 – 127) 32 – 127 [ASCII]
00 0B	0aaa aaaa	Tone Name 12	(32 – 127) 32 – 127 [ASCII]
00 0C	0000 000a	Assign Type	(0 – 1) MULTI, SINGLE
00 0D	000a aaaa	Mute Group	(0 – 31) OFF, 1 – 31
00 0E	0aaa aaaa	Tone Level	(0 – 127)
00 0F	0aaa aaaa	Tone Coarse Tune	(0 – 127) C-1 – G9
00 10	0aaa aaaa	Tone Fine Tune	(14 – 114) -50 – +50
00 11	000a aaaa	Tone Random Pitch Depth	(0 – 30) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200
00 12	0aaa aaaa	Tone Pan	(0 – 127) L64 – 63R
00 13	00aa aaaa	Tone Random Pan Depth	(0 – 63)
00 14	0aaa aaaa	Tone Alternate Pan Depth	(1 – 127) L63 – 63R
00 15	0000 000a	Tone Env Mode	(0 – 1) NO-SUS, SUSTAIN
00 16	0aaa aaaa	Tone Dry Send Level	(0 – 127)
00 17	0aaa aaaa	Tone Chorus Send Level	(0 – 127)
00 18	0aaa aaaa	Tone Reverb Send Level	(0 – 127)
00 19	0aaa aaaa	Tone Chorus Send Level (non MFX)	(0 – 127)
00 1A	0aaa aaaa	Tone Reverb Send Level (non MFX)	(0 – 127)
00 1B	0000 aaaa	Tone Output Assign	(0 – 12) MFX, A, B, C, D, 1, 2, 3, 4, 5, 6, 7, 8
00 1C	00aa aaaa	Tone Pitch Bend Range	(0 – 48)
00 1D	0000 000a	Tone Receive Expression	(0 – 1) OFF, ON
00 1E	0000 000a	Tone Receive Hold-1	(0 – 1) OFF, ON
00 1F	0000 000a	Tone Receive Pan Mode	(0 – 1) CONTINUOUS, KEY-ON
00 20	0000 00aa	WMT Velocity Control	(0 – 2) OFF, ON, RANDOM
00 21	0000 000a	WMT1 Wave Switch	(0 – 1) OFF, ON
00 22	0000 00aa	WMT1 Wave Group Type	(0 – 3) INT-WAVE, SRJV80-EXP, SRX-EXP, SAMPLE
# 00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Group ID	(0 – 16384) OFF, 1 – 16384
# 00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number L (Mono)	(0 – 16384) OFF, 1 – 16384
# 00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number R	(0 – 16384) OFF, 1 – 16384
00 2F	0000 00aa	WMT1 Wave Gain	(0 – 3) -6, 0, +6, +12 [dB]
00 30	0000 000a	WMT1 Wave FXM Switch	(0 – 1) OFF, ON
00 31	0000 00aa	WMT1 Wave FXM Color	(0 – 3) 1 – 4
00 32	000a aaaa	WMT1 Wave FXM Depth	(0 – 16)
00 33	0000 000a	WMT1 Wave Tempo Sync	(0 – 1) OFF, ON
00 34	0aaa aaaa	WMT1 Wave Coarse Tune	(16 – 112) -48 – +48
00 35	0aaa aaaa	WMT1 Wave Fine Tune	(14 – 114) -50 – +50
00 36	0aaa aaaa	WMT1 Wave Pan	(0 – 127) L64 – 63R
00 37	0000 000a	WMT1 Wave Random Pan Switch	(0 – 1) OFF, ON
00 38	0000 00aa	WMT1 Wave Alternate Pan Switch	(0 – 2) OFF, ON, REVERSE
00 39	0aaa aaaa	WMT1 Wave Level	(0 – 127)
00 3A	0aaa aaaa	WMT1 Velocity Range Lower	(1 – 127) 1 – UPPER
00 3B	0aaa aaaa	WMT1 Velocity Range Upper	(1 – 127) LOWER – 127

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       00 3C   0aaa aaaa   WMT1 Velocity Fade Width Lower    (0 - 127)
       00 3D   0aaa aaaa   WMT1 Velocity Fade Width Upper    (0 - 127)

       00 3E   0000 000a   WMT2 Wave Switch                    (0 - 1)
                                                              OFF, ON
       00 3F   0000 00aa   WMT2 Wave Group Type                (0 - 3)
                                     INT-WAVE, SRJV80-EXP, SRX-EXP,
                                                               SAMPLE
#      00 40   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT2 Wave Group ID              (0 - 16384)
                                                        OFF, 1 - 16384
#      00 44   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT2 Wave Number L (Mono)       (0 - 16384)
                                                        OFF, 1 - 16384
#      00 48   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT2 Wave Number R              (0 - 16384)
                                                        OFF, 1 - 16384
       00 4C   0000 00aa   WMT2 Wave Gain                      (0 - 3)
                                                -6, 0, +6, +12 [dB]
       00 4D   0000 000a   WMT2 Wave FXM Switch                (0 - 1)
                                                              OFF, ON
       00 4E   0000 00aa   WMT2 Wave FXM Color                 (0 - 3)
                                                                1 - 4
       00 4F   000a aaaa   WMT2 Wave FXM Depth                (0 - 16)
       00 50   0000 000a   WMT2 Wave Tempo Sync                (0 - 1)
                                                              OFF, ON
       00 51   0aaa aaaa   WMT2 Wave Coarse Tune           (16 - 112)
                                                            -48 - +48
       00 52   0aaa aaaa   WMT2 Wave Fine Tune             (14 - 114)
                                                            -50 - +50
       00 53   0aaa aaaa   WMT2 Wave Pan                     (0 - 127)
                                                            L64 - 63R
       00 54   0000 000a   WMT2 Wave Random Pan Switch         (0 - 1)
                                                              OFF, ON
       00 55   0000 00aa   WMT2 Wave Alternate Pan Switch      (0 - 2)
                                                    OFF, ON, REVERSE
       00 56   0aaa aaaa   WMT2 Wave Level                   (0 - 127)
       00 57   0aaa aaaa   WMT2 Velocity Range Lower         (1 - 127)
                                                            1 - UPPER
       00 58   0aaa aaaa   WMT2 Velocity Range Upper         (1 - 127)
                                                        LOWER - 127
       00 59   0aaa aaaa   WMT2 Velocity Fade Width Lower     (0 - 127)
       00 5A   0aaa aaaa   WMT2 Velocity Fade Width Upper     (0 - 127)

       00 5B   0000 000a   WMT3 Wave Switch                    (0 - 1)
                                                              OFF, ON
       00 5C   0000 00aa   WMT3 Wave Group Type                (0 - 3)
                                     INT-WAVE, SRJV80-EXP, SRX-EXP,
                                                               SAMPLE
#      00 5D   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT3 Wave Group ID              (0 - 16384)
                                                        OFF, 1 - 16384
#      00 61   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT3 Wave Number L (Mono)       (0 - 16384)
                                                        OFF, 1 - 16384
#      00 65   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT3 Wave Number R              (0 - 16384)
                                                        OFF, 1 - 16384
       00 69   0000 00aa   WMT3 Wave Gain                      (0 - 3)
                                                -6, 0, +6, +12 [dB]
       00 6A   0000 000a   WMT3 Wave FXM Switch                (0 - 1)
                                                              OFF, ON
       00 6B   0000 00aa   WMT3 Wave FXM Color                 (0 - 3)
                                                                1 - 4
       00 6C   000a aaaa   WMT3 Wave FXM Depth                (0 - 16)
       00 6D   0000 000a   WMT3 Wave Tempo Sync                (0 - 1)
                                                              OFF, ON
       00 6E   0aaa aaaa   WMT3 Wave Coarse Tune           (16 - 112)
                                                            -48 - +48
       00 6F   0aaa aaaa   WMT3 Wave Fine Tune             (14 - 114)
                                                            -50 - +50
       00 70   0aaa aaaa   WMT3 Wave Pan                     (0 - 127)
                                                            L64 - 63R
       00 71   0000 000a   WMT3 Wave Random Pan Switch         (0 - 1)
                                                              OFF, ON
       00 72   0000 00aa   WMT3 Wave Alternate Pan Switch      (0 - 2)
                                                    OFF, ON, REVERSE
       00 73   0aaa aaaa   WMT3 Wave Level                   (0 - 127)
       00 74   0aaa aaaa   WMT3 Velocity Range Lower         (1 - 127)
                                                            1 - UPPER
       00 75   0aaa aaaa   WMT3 Velocity Range Upper         (1 - 127)
                                                        LOWER - 127
       00 76   0aaa aaaa   WMT3 Velocity Fade Width Lower     (0 - 127)
       00 77   0aaa aaaa   WMT3 Velocity Fade Width Upper     (0 - 127)

       00 78   0000 000a   WMT4 Wave Switch                    (0 - 1)
                                                              OFF, ON
       00 79   0000 00aa   WMT4 Wave Group Type                (0 - 3)
                                     INT-WAVE, SRJV80-EXP, SRX-EXP,
                                                               SAMPLE
#      00 7A   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT4 Wave Group ID              (0 - 16384)
                                                        OFF, 1 - 16384
#      00 7E   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT4 Wave Number L (Mono)       (0 - 16384)
                                                        OFF, 1 - 16384
#      01 02   0000 aaaa
               0000 bbbb
               0000 cccc
               0000 dddd   WMT4 Wave Number R              (0 - 16384)
                                                        OFF, 1 - 16384
       01 06   0000 00aa   WMT4 Wave Gain                      (0 - 3)
                                                -6, 0, +6, +12 [dB]
       01 07   0000 000a   WMT4 Wave FXM Switch                (0 - 1)
                                                              OFF, ON
       01 08   0000 00aa   WMT4 Wave FXM Color                 (0 - 3)
                                                                1 - 4
       01 09   000a aaaa   WMT4 Wave FXM Depth                (0 - 16)
       01 0A   0000 000a   WMT4 Wave Tempo Sync                (0 - 1)
                                                              OFF, ON
       01 0B   0aaa aaaa   WMT4 Wave Coarse Tune           (16 - 112)
                                                            -48 - +48
       01 0C   0aaa aaaa   WMT4 Wave Fine Tune             (14 - 114)
                                                            -50 - +50
       01 0D   0aaa aaaa   WMT4 Wave Pan                     (0 - 127)
                                                            L64 - 63R
       01 0E   0000 000a   WMT4 Wave Random Pan Switch         (0 - 1)
                                                              OFF, ON
       01 0F   0000 00aa   WMT4 Wave Alternate Pan Switch      (0 - 2)
                                                    OFF, ON, REVERSE
       01 10   0aaa aaaa   WMT4 Wave Level                   (0 - 127)
       01 11   0aaa aaaa   WMT4 Velocity Range Lower         (1 - 127)
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       01 12   0aaa aaaa   WMT4 Velocity Range Upper         1 - UPPER
                                                        LOWER - 127
       01 13   0aaa aaaa   WMT4 Velocity Fade Width Lower     (0 - 127)
       01 14   0aaa aaaa   WMT4 Velocity Fade Width Upper     (0 - 127)

       01 15   000a aaaa   Pitch Env Depth                   (52 - 76)
                                                            -12 - +12
       01 16   0aaa aaaa   Pitch Env Velocity Sens           (1 - 127)
                                                            -63 - +63
       01 17   0aaa aaaa   Pitch Env Time 1 Velocity Sens    (1 - 127)
                                                            -63 - +63
       01 18   0aaa aaaa   Pitch Env Time 4 Velocity Sens    (1 - 127)
                                                            -63 - +63
       01 19   0aaa aaaa   Pitch Env Time 1                  (0 - 127)
       01 1A   0aaa aaaa   Pitch Env Time 2                  (0 - 127)
       01 1B   0aaa aaaa   Pitch Env Time 3                  (0 - 127)
       01 1C   0aaa aaaa   Pitch Env Time 4                  (0 - 127)
       01 1D   0aaa aaaa   Pitch Env Level 0                 (1 - 127)
                                                            -63 - +63
       01 1E   0aaa aaaa   Pitch Env Level 1                 (1 - 127)
                                                            -63 - +63
       01 1F   0aaa aaaa   Pitch Env Level 2                 (1 - 127)
                                                            -63 - +63
       01 20   0aaa aaaa   Pitch Env Level 3                 (1 - 127)
                                                            -63 - +63
       01 21   0aaa aaaa   Pitch Env Level 4                 (1 - 127)
                                                            -63 - +63

       01 22   0000 0aaa   TVF Filter Type                     (0 - 6)
                                     OFF, LPF, BPF, HPF, PKG, LPF2,
                                                                 LPF3
       01 23   0aaa aaaa   TVF Cutoff Frequency              (0 - 127)
       01 24   0000 0aaa   TVF Cutoff Velocity Curve           (0 - 7)
                                                        FIXED, 1 - 7
       01 25   0aaa aaaa   TVF Cutoff Velocity Sens          (1 - 127)
                                                            -63 - +63
       01 26   0aaa aaaa   TVF Resonance                     (0 - 127)
       01 27   0aaa aaaa   TVF Resonance Velocity Sens       (1 - 127)
                                                            -63 - +63
       01 28   0aaa aaaa   TVF Env Depth                     (1 - 127)
                                                            -63 - +63
       01 29   0000 0aaa   TVF Env Velocity Curve Type         (0 - 7)
                                                        FIXED, 1 - 7
       01 2A   0aaa aaaa   TVF Env Velocity Sens             (1 - 127)
                                                            -63 - +63
       01 2B   0aaa aaaa   TVF Env Time 1 Velocity Sens      (1 - 127)
                                                            -63 - +63
       01 2C   0aaa aaaa   TVF Env Time 4 Velocity Sens      (1 - 127)
                                                            -63 - +63
       01 2D   0aaa aaaa   TVF Env Time 1                    (0 - 127)
       01 2E   0aaa aaaa   TVF Env Time 2                    (0 - 127)
       01 2F   0aaa aaaa   TVF Env Time 3                    (0 - 127)
       01 30   0aaa aaaa   TVF Env Time 4                    (0 - 127)
       01 31   0aaa aaaa   TVF Env Level 0                   (0 - 127)
       01 32   0aaa aaaa   TVF Env Level 1                   (0 - 127)
       01 33   0aaa aaaa   TVF Env Level 2                   (0 - 127)
       01 34   0aaa aaaa   TVF Env Level 3                   (0 - 127)
       01 35   0aaa aaaa   TVF Env Level 4                   (0 - 127)

       01 36   0000 0aaa   TVA Level Velocity Curve            (0 - 7)
                                                        FIXED, 1 - 7
       01 37   0aaa aaaa   TVA Level Velocity Sens           (1 - 127)
                                                            -63 - +63
       01 38   0aaa aaaa   TVA Env Time 1 Velocity Sens      (1 - 127)
                                                            -63 - +63
       01 39   0aaa aaaa   TVA Env Time 4 Velocity Sens      (1 - 127)
                                                            -63 - +63
       01 3A   0aaa aaaa   TVA Env Time 1                    (0 - 127)
       01 3B   0aaa aaaa   TVA Env Time 2                    (0 - 127)
       01 3C   0aaa aaaa   TVA Env Time 3                    (0 - 127)
       01 3D   0aaa aaaa   TVA Env Time 4                    (0 - 127)
       01 3E   0aaa aaaa   TVA Env Level 1                   (0 - 127)
       01 3F   0aaa aaaa   TVA Env Level 2                   (0 - 127)
       01 40   0aaa aaaa   TVA Env Level 3                   (0 - 127)

 00 00 01 41   Total Size
```

2. GS (Model ID: 42H)

* System Parameter

```
  Start
  Address                 Description

#  40 00 00  0000 aaaa
             0000 bbbb
             0000 cccc
             0000 dddd   Master Tune                     (24 - 2024)
                                             -100.0 - 100.0 [cent]
   40 00 04  0aaa aaaa   Master Volume                     (0 - 127)
   40 00 05  0aaa aaaa   Master Key Shift                  (40 - 88)
                                             -24 - +24 [semitone]
   40 00 06  0aaa aaaa   Master Pan                        (1 - 127)
                                                          L63 - 63R
   40 00 7F  0aaa aaaa   Mode Set                           (0, 127)
                                                 GS-RESET, GS-EXIT
```

* Common Parameter

```
  Start
  Address                 Description

   40 01 10  0aaa aaaa   Voice Reserve 1                    (0 - 24)
   40 01 11  0aaa aaaa   Voice Reserve 2                    (0 - 24)
   40 01 12  0aaa aaaa   Voice Reserve 3                    (0 - 24)
   40 01 13  0aaa aaaa   Voice Reserve 4                    (0 - 24)
   40 01 14  0aaa aaaa   Voice Reserve 5                    (0 - 24)
   40 01 15  0aaa aaaa   Voice Reserve 6                    (0 - 24)
   40 01 16  0aaa aaaa   Voice Reserve 7                    (0 - 24)
   40 01 17  0aaa aaaa   Voice Reserve 8                    (0 - 24)
   40 01 18  0aaa aaaa   Voice Reserve 9                    (0 - 24)
   40 01 19  0aaa aaaa   Voice Reserve 10                   (0 - 24)
   40 01 1A  0aaa aaaa   Voice Reserve 11                   (0 - 24)
   40 01 1B  0aaa aaaa   Voice Reserve 12                   (0 - 24)
   40 01 1C  0aaa aaaa   Voice Reserve 13                   (0 - 24)
   40 01 1D  0aaa aaaa   Voice Reserve 14                   (0 - 24)
   40 01 1E  0aaa aaaa   Voice Reserve 15                   (0 - 24)
   40 01 1F  0aaa aaaa   Voice Reserve 16                   (0 - 24)

   40 01 30  0aaa aaaa   Reverb Macro                        (0 - 7)
   40 01 31  0aaa aaaa   Reverb Character                    (0 - 7)
   40 01 32  0aaa aaaa   Reverb Pre-LPF                      (0 - 7)
   40 01 33  0aaa aaaa   Reverb Level                      (0 - 127)
   40 01 34  0aaa aaaa   Reverb Time                       (0 - 127)
   40 01 35  0aaa aaaa   Reverb Delay Feedback             (0 - 127)
   40 01 36  0aaa aaaa   Reverb Send Level to Chorus       (0 - 127)

   40 01 38  0aaa aaaa   Chorus Macro                        (0 - 7)
```

Start Address			Description	
40 01 39	0aaa aaaa	Chorus Pre-LPF	(0 - 7)
40 01 3A	0aaa aaaa	Chorus Level	(0 - 127)
40 01 3B	0aaa aaaa	Chorus Feedback	(0 - 127)
40 01 3C	0aaa aaaa	Chorus Delay	(0 - 127)
40 01 3D	0aaa aaaa	Chorus Rate	(0 - 127)
40 01 3E	0aaa aaaa	Chorus Depth	(0 - 127)
40 01 3F	0aaa aaaa	Chorus Send Level to Reverb	(0 - 127)

* Part Parameter

Start Address		Description	
# 40 1x 00	0aaa aaaa	Tone Number CC#00 Value	(0 - 127)
	0aaa aaaa	Tone Number PC Value	(0 - 127)
40 1x 02	0aaa aaaa	Rx. Channel	(0 - 16) 1 - 16, OFF
40 1x 03	0000 000a	Rx. Pitch Bend	(0 - 1) OFF, ON
40 1x 04	0000 000a	Rx. Channel Pressure	(0 - 1) OFF, ON
40 1x 05	0000 000a	Rx. Program Change	(0 - 1) OFF, ON
40 1x 06	0000 000a	Rx. Control Change	(0 - 1) OFF, ON
40 1x 07	0000 000a	Rx. Poly Pressure	(0 - 1) OFF, ON
40 1x 08	0000 000a	Rx. Note Message	(0 - 1) OFF, ON
40 1x 09	0000 000a	Rx. RPN	(0 - 1) OFF, ON
40 1x 0A	0000 000a	Rx. NRPN	(0 - 1) OFF, ON
40 1x 0B	0000 000a	Rx. Modulation	(0 - 1) OFF, ON
40 1x 0C	0000 000a	Rx. Volume	(0 - 1) OFF, ON
40 1x 0D	0000 000a	Rx. Panpot	(0 - 1) OFF, ON
40 1x 0E	0000 000a	Rx. Expression	(0 - 1) OFF, ON
40 1x 0F	0000 000a	Rx. Hold-1	(0 - 1) OFF, ON
40 1x 10	0000 000a	Rx. Portamento	(0 - 1) OFF, ON
40 1x 11	0000 000a	Rx. Sostenuto	(0 - 1) OFF, ON
40 1x 12	0000 000a	Rx. Soft	(0 - 1) OFF, ON
40 1x 13	0aaa aaaa	Mono / Poly Mode	(0 - 1) MODE, POLY
40 1x 14	0aaa aaaa	Assign Mode	(0 - 2) SINGLE, LIMITED-MULTI, FULL-MULTI
40 1x 15	0aaa aaaa	Use for Rhythm Part	(0 - 2) OFF, MAP1, MAP2
40 1x 16	0aaa aaaa	Pitch Key Shift	(40 - 88) -24 - +24 [semitone]
# 40 1x 17	0000 aaaa 0000 bbbb	Pitch Offset Fine	(8 - 248) -12.0 - +12.0 [Hz]
40 1x 19	0aaa aaaa	Part Level (CC# 7)	(0 - 127)
40 1x 1A	0aaa aaaa	Velocity Sens Depth	(0 - 127) -64 - +63
40 1x 1B	0aaa aaaa	Velocity Sens Offset	(0 - 127) -64 - +63
40 1x 1C	0aaa aaaa	Part Panpot (CC# 10)	(0 - 127) RANDOM, L63 - 63R
40 1x 1D	0aaa aaaa	Keyboard Range Low	(0 - 127)
40 1x 1E	0aaa aaaa	Keyboard Range High	(0 - 127)
40 1x 1F	0aaa aaaa	CC1 Controller Number	(0 - 95)
40 1x 20	0aaa aaaa	CC2 Controller Number	(0 - 95)
40 1x 21	0aaa aaaa	Chorus Send Level (CC# 93)	(0 - 127)
40 1x 22	0aaa aaaa	Reverb Send Level (CC# 93)	(0 - 127)
40 1x 23	0000 000a	Rx. Bank Select	(0 - 1) OFF, ON
40 1x 24	0000 000a	Rx. Bank Select LSB	(0 - 1) OFF, ON
40 1x 30	0aaa aaaa	Tone Modify 1 (Vibrato Rate)	(0 - 127) -64 - +63
40 1x 31	0aaa aaaa	Tone Modify 2 (Vibrato Depth)	(0 - 127) -64 - +63
40 1x 32	0aaa aaaa	Tone Modify 3 (TVF Cutoff Freq.)	(0 - 127) -64 - +63
40 1x 33	0aaa aaaa	Tone Modify 4 (TVF Resonance)	(0 - 127) -64 - +63
40 1x 34	0aaa aaaa	Tone Modify 5 (TVF&TVA Env. Attack)	(0 - 127) -64 - +63
40 1x 35	0aaa aaaa	Tone Modify 6 (TVF&TVA Env. Decay)	(0 - 127) -64 - +63
40 1x 36	0aaa aaaa	Tone Modify 7 (TVF&TVA ENv. Release)	(0 - 127) -64 - +63
40 1x 37	0aaa aaaa	Tone Modify 8 (Vibrato Delay)	(0 - 127) -64 - +63
40 1x 40	0aaa aaaa	Scale Tuning C	(0 - 127) -64 - +63 [cent]
40 1x 41	0aaa aaaa	Scale Tuning C#	(0 - 127) -64 - +63 [cent]
40 1x 42	0aaa aaaa	Scale Tuning D	(0 - 127) -64 - +63 [cent]
40 1x 43	0aaa aaaa	Scale Tuning D#	(0 - 127) -64 - +63 [cent]
40 1x 44	0aaa aaaa	Scale Tuning E	(0 - 127) -64 - +63 [cent]
40 1x 45	0aaa aaaa	Scale Tuning F	(0 - 127) -64 - +63 [cent]
40 1x 46	0aaa aaaa	Scale Tuning F#	(0 - 127) -64 - +63 [cent]
40 1x 47	0aaa aaaa	Scale Tuning G	(0 - 127) -64 - +63 [cent]
40 1x 48	0aaa aaaa	Scale Tuning G#	(0 - 127) -64 - +63 [cent]
40 1x 49	0aaa aaaa	Scale Tuning A	(0 - 127) -64 - +63 [cent]
40 1x 4A	0aaa aaaa	Scale Tuning A#	(0 - 127) -64 - +63 [cent]
40 1x 4B	0aaa aaaa	Scale Tuning B	(0 - 127) -64 - +63 [cent]
40 2x 00	0aaa aaaa	Mod Pitch Control	(40 - 88) -24 - +24 [semitone]
40 2x 01	0aaa aaaa	Mod TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 02	0aaa aaaa	Mod Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 03	0aaa aaaa	Mod LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 04	0aaa aaaa	Mod LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 05	0aaa aaaa	Mod LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 06	0aaa aaaa	Mod LFO1 TVA Depth	(0 - 127)

Start Address		Description	
40 2x 07	0aaa aaaa	Mod LFO2 Rate Control	0 - 100.0 [%] (0 - 127) -10.0 - +10.0 [Hz]
40 2x 08	0aaa aaaa	Mod LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 09	0aaa aaaa	Mod LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 0A	0aaa aaaa	Mod LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]
40 2x 10	0aaa aaaa	Bend Pitch Control	(64 - 88) 0 - 24 [semitone]
40 2x 11	0aaa aaaa	Bend TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 12	0aaa aaaa	Bend Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 13	0aaa aaaa	Bend LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 14	0aaa aaaa	Bend LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 15	0aaa aaaa	Bend LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 16	0aaa aaaa	Bend LFO1 TVA Depth	(0 - 127) -100.0 - +100.0 [%]
40 2x 17	0aaa aaaa	Bend LFO2 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 18	0aaa aaaa	Bend LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 19	0aaa aaaa	Bend LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 1A	0aaa aaaa	Bend LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]
40 2x 20	0aaa aaaa	CAf Pitch Control	(40 - 88) -24 - +24 [semitone]
40 2x 21	0aaa aaaa	CAf TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 22	0aaa aaaa	CAf Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 23	0aaa aaaa	CAf LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 24	0aaa aaaa	CAf LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 25	0aaa aaaa	CAf LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 26	0aaa aaaa	CAf LFO1 TVA Depth	(0 - 127) -100.0 - +100.0 [%]
40 2x 27	0aaa aaaa	CAf LFO2 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 28	0aaa aaaa	CAf LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 29	0aaa aaaa	CAf LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 2A	0aaa aaaa	CAf LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]
40 2x 30	0aaa aaaa	PAf Pitch Control	(40 - 88) -24 - +24 [semitone]
40 2x 31	0aaa aaaa	PAf TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 32	0aaa aaaa	PAf Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 33	0aaa aaaa	PAf LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 34	0aaa aaaa	PAf LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 35	0aaa aaaa	PAf LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 36	0aaa aaaa	PAf LFO1 TVA Depth	(0 - 127) -100.0 - +100.0 [%]
40 2x 37	0aaa aaaa	PAf LFO2 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 38	0aaa aaaa	PAf LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 39	0aaa aaaa	PAf LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 3A	0aaa aaaa	PAf LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]
40 2x 40	0aaa aaaa	CC1 Pitch Control	(40 - 88) -24 - +24 [semitone]
40 2x 41	0aaa aaaa	CC1 TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 42	0aaa aaaa	CC1 Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 43	0aaa aaaa	CC1 LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 44	0aaa aaaa	CC1 LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 45	0aaa aaaa	CC1 LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 46	0aaa aaaa	CC1 LFO1 TVA Depth	(0 - 127) -100.0 - +100.0 [%]
40 2x 47	0aaa aaaa	CC1 LFO2 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 48	0aaa aaaa	CC1 LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 49	0aaa aaaa	CC1 LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 4A	0aaa aaaa	CC1 LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]
40 2x 50	0aaa aaaa	CC2 Pitch Control	(40 - 88) -24 - +24 [semitone]
40 2x 51	0aaa aaaa	CC2 TVF Cutoff Control	(0 - 127) -9600 - +9600 [cent]
40 2x 52	0aaa aaaa	CC2 Amplitude Control	(0 - 127) -100.0 - +100.0 [%]
40 2x 53	0aaa aaaa	CC2 LFO1 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 54	0aaa aaaa	CC2 LFO1 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 55	0aaa aaaa	CC2 LFO1 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 56	0aaa aaaa	CC2 LFO1 TVA Depth	(0 - 127) -100.0 - +100.0 [%]
40 2x 57	0aaa aaaa	CC2 LFO2 Rate Control	(0 - 127) -10.0 - +10.0 [Hz]
40 2x 58	0aaa aaaa	CC2 LFO2 Pitch Control	(0 - 127) 0 - 600 [cent]
40 2x 59	0aaa aaaa	CC2 LFO2 TVF Depth	(0 - 127) 0 - 2400 [cent]
40 2x 5A	0aaa aaaa	CC2 LFO2 TVA Depth	(0 - 127) 0 - 100.0 [%]

x: BLOCK NUMBER (0-F)
Part 1 (MIDI ch = 1) x = 1
Part 2 (MIDI ch = 2) x = 2
:   : :
Part 9 (MIDI ch = 9) x = 9
Part10 (MIDI ch = 10) x = 0
Part11 (MIDI ch = 11) x = A
Part12 (MIDI ch = 12) x = B
:   : :
Part16 (MIDI ch = 16) x = F

MIDI Implementation

*   Drum Setup Parameter

Start Address		Description	
41 m0 00	0aaa aaaa	Drum Map Name 1	(32 - 127) 32 - 127 [ASCII]
41 m0 01	0aaa aaaa	Drum Map Name 2	(32 - 127) 32 - 127 [ASCII]
41 m0 02	0aaa aaaa	Drum Map Name 3	(32 - 127) 32 - 127 [ASCII]
41 m0 03	0aaa aaaa	Drum Map Name 4	(32 - 127) 32 - 127 [ASCII]
41 m0 04	0aaa aaaa	Drum Map Name 5	(32 - 127) 32 - 127 [ASCII]
41 m0 05	0aaa aaaa	Drum Map Name 6	(32 - 127) 32 - 127 [ASCII]
41 m0 06	0aaa aaaa	Drum Map Name 7	(32 - 127) 32 - 127 [ASCII]
41 m0 07	0aaa aaaa	Drum Map Name 8	(32 - 127) 32 - 127 [ASCII]
41 m0 08	0aaa aaaa	Drum Map Name 9	(32 - 127) 32 - 127 [ASCII]
41 m0 09	0aaa aaaa	Drum Map Name 10	(32 - 127) 32 - 127 [ASCII]
41 m0 0A	0aaa aaaa	Drum Map Name 11	(32 - 127) 32 - 127 [ASCII]
41 m0 0B	0aaa aaaa	Drum Map Name 12	(32 - 127) 32 - 127 [ASCII]
41 m1 rr	0aaa aaaa	Play Note Number	(0 - 127)
41 m2 rr	0aaa aaaa	Level	(0 - 127)
41 m3 rr	0aaa aaaa	Assign Group Number	(0 - 127) NON, 1 - 127
41 m4 rr	0aaa aaaa	Panpot	(0 - 127) RAMDOM, L63 - 63R
41 m5 rr	0aaa aaaa	Reverb Send Level	(0 - 127) 0.0 - 1.0
41 m6 rr	0aaa aaaa	Chorus Send Level	(0 - 127) 0.0 - 1.0
41 m7 rr	0000 000a	Rx. Note Off	(0 - 1) OFF, ON
41 m8 rr	0000 000a	Rx. Note On	(0 - 1) OFF, ON

m: Map number (0 = MAP1, 1 = MAP2)
rr: drum part note number (00H-7FH)

●Decimal and Hexadecimal table

(An "H" is appended to the end of numbers in hexadecimal notation.)

In MIDI documentation, data values and addresses/sizes of Exclusive messages, etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

D	H		D	H		D	H		D	H
0	00H		32	20H		64	40H		96	60H
1	01H		33	21H		65	41H		97	61H
2	02H		34	22H		66	42H		98	62H
3	03H		35	23H		67	43H		99	63H
4	04H		36	24H		68	44H		100	64H
5	05H		37	25H		69	45H		101	65H
6	06H		38	26H		70	46H		102	66H
7	07H		39	27H		71	47H		103	67H
8	08H		40	28H		72	48H		104	68H
9	09H		41	29H		73	49H		105	69H
10	0AH		42	2AH		74	4AH		106	6AH
11	0BH		43	2BH		75	4BH		107	6BH
12	0CH		44	2CH		76	4CH		108	6CH
13	0DH		45	2DH		77	4DH		109	6DH
14	0EH		46	2EH		78	4EH		110	6EH
15	0FH		47	2FH		79	4FH		111	6FH
16	10H		48	30H		80	50H		112	70H
17	11H		49	31H		81	51H		113	71H
18	12H		50	32H		82	52H		114	72H
19	13H		51	33H		83	53H		115	73H
20	14H		52	34H		84	54H		116	74H
21	15H		53	35H		85	55H		117	75H
22	16H		54	36H		86	56H		118	76H
23	17H		55	37H		87	57H		119	77H
24	18H		56	38H		88	58H		120	78H
25	19H		57	39H		89	59H		121	79H
26	1AH		58	3AH		90	5AH		122	7AH
27	1BH		59	3BH		91	5BH		123	7BH
28	1CH		60	3CH		92	5CH		124	7CH
29	1DH		61	3DH		93	5DH		125	7DH
30	1EH		62	3EH		94	5EH		126	7EH
31	1FH		63	3FH		95	5FH		127	7FH

D:decimal
H:hexadecimal

*   Decimal values such as MIDI channel, bank select, and program change are listed as one greater than the values given in the above table.

*   A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128+bb.

*   In the case of values which have a +/- sign, 00H = -64, 40H = +/-0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = +/-0, and 7F 7FH = +8191. For example, if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128+bb - 64 x 128.

*   Data marked "Use nibbled data" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16+b.

<Example 1> What is the decimal expression of 5AH ?
From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?
From the preceding table, since 12H = 18 and 34H = 52
18 x 128+52 = 2356

<Example 3> What is the decimal expression of the nibbled value 0A 03 09 0D ?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16+3) x 16+9) x 16+13 = 41885

<Example 4> What is the nibbled expression of the decimal value 1258?

```
16)  1258
16)    78 ... 10
16)     4 ... 14
        0 ...  4
```

Since from the preceding table, 0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH, the result is: 00 04 0E 0AH.

●Examples of actual MIDI messages

<Example 1> 92 3E 5F
9n is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example 2> CE 49
CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74 (Flute in GS).

<Example 3> EA 00 28
EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 12+80 = 8192) is 0, so this Pitch Bend Value is
28 00H - 40 00H = 40 x 12+80 - (64 x 12+80) = 5120 - 8192 = -3072

If the Pitch Bend Sensitivity is set to 2 semitones, -8192 (00 00H) will cause the pitch to change -200 cents, so in this case -200 x (-3072) ÷ (-8192) = -75 cents of Pitch Bend is being applied to MIDI channel 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F
BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

B3	64 00	MIDI ch.4, lower byte of RPN parameter number: 00H
(B3)	65 00	(MIDI ch.4) upper byte of RPN parameter number: 00H
(B3)	06 0C	(MIDI ch.4) upper byte of parameter value:0CH
(B3)	26 00	(MIDI ch.4) lower byte of parameter value:00H
(B3)	64 7F	(MIDI ch.4) lower byte of RPN parameter number: 7FH
(B3)	65 7F	(MIDI ch.4) upper byte of RPN parameter number: 7FH

In other words, the above messages specify a value of 0C 00H for RPN parameter number 00 00H on MIDI channel 4, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to +/-12 semitones (1 octave). (On GS sound generators the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B3) 64 7F (B3) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted

during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound generator will then misinterpret the data. Take care to give each event its own status.

It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN = 96, and about 5 ticks for TPQN = 480).

* TPQN: Ticks Per Quarter Note

●Example of an Exclusive message and calculating a checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted Exclusive message.

❍How to calculate the checksum (hexadecimal numbers are indicated by "H")

The checksum is a value derived by adding the address, size, and checksum itself and inverting the lower 7 bits.
Here's an example of how the checksum is calculated. We will assume that in the Exclusive message we are transmitting, the address is aa bb cc ddH and the data or size is ee ffH.

aa + bb + cc + dd + ee + ff = sum
sum ÷ 128 = quotient ... remainder
128 - remainder = checksum

<Example 1> Setting CHORUS TYPE of PERFORMANCE COMMON to DELAY (DT1).

According to the "Parameter Address Map (p. 290)", the start address of Temporary Performance is 10 00 00 00H, the offset address of CHORUS at PERFORMANCE COMMON is 04 00H, and the address of CHORUS TYPE is 00 00H. Therefore the address of CHORUS TYPE of PERFORMANCE COMMON is;

```
    10 00 00 00H
          04 00H
+)        00 00H
    10 00 04 00H
```

DELAY has the value of 02H.
So the system exclusive message should be sent is;

```
F0   41   10   00 10      12      10 00 04 00     02        ??        F7
(1)  (2)  (3)  (4)        (5)     address         data      checksum  (6)
```
(1) Exclusive Status,   (2) ID (Roland),   (3) Device ID (17),
(4) Model ID (XV-5080),   (5) Command ID (DT1),   (6) End of Exclusive

Then calculate the checksum.

10H + 00H + 04H + 00H + 02H = 16 + 0 + 4 + 0 + 2 = 22 (sum)
22 (sum) ÷ 128 = 0 (quotient) ... 22 (remainder)
checksum = 128 - 22 (remainder) = 106 = 6AH

This means that F0 41 10 00 10 12 10 00 04 00 02 6A F7 is the message should be sent.

<Example 2> Getting the data (RQ1) of Performance Part 3 in USER:03.

According to the "Parameter Address Map (p. 290)", the start address of USER:03 is 20 02 00 00H, and the offset address of Performance Part 3 is 00 22 00H.
Therefore the start address of Performance Part 3 in USER:03 is;

```
  20 02 00 00H
+)   00 22 00H
  20 02 22 00H
```

As the size of Performance Part is 00 00 00 21H, the system exclusive message should be sent is;

```
F0   41   10   00 10      11      20 02 22 00     00 00 00 21     ??        F7
(1)  (2)  (3)  (4)        (5)     address         data           checksum  (6)
```

(1) Exclusive Status,   (2) ID (Roland),   (3) Device ID (17),
(4) Model ID (XV-5080),   (5) Command ID(RQ1),   (6) End of Exclusive

Then calculate the checksum.

20H + 02H + 22H + 00H + 00H + 00H + 00H + 21H = 32 + 2 + 34 + 0 + 0 + 0 + 0 + 33 = 101 (sum)
101 (sum) ÷ 128 = 0 (quotient) ... 101 (remainder)
checksum = 128 - 101 (remainder) = 27 = 1BH

This means that F0 41 10 00 10 11 20 02 22 00 00 00 00 21 1B F7 is the message should be sent.

<Example 3> Getting Temporary Performance data (RQ1);

cf.) This operation is the same as Data Transfer function in Utility mode with "PERFORM" (Type parameter) and "TEMP: -PATCH" (Source parameter) options.

According to the "Parameter Address Map (p. 290)", the start address of Temporary Performance is assinged as following:

```
    10 00 00 00H       Temporary Performance Common
    :
    10 00 20 00H       Temporary Performance Part 1
    :
    10 00 3F 00H       Temporary Performance Part 32
```

As the data size of Performance Part is 00 00 00 21H, summation of the size and the start address of Part 32 at Temporay Performance will be;

```
    10 00 3F 00H
+)  00 00 00 21H
    10 00 3F 21H
```

And the size that have to be got should be;

```
    10 00 3F 21H
-)  10 00 00 00H
    00 00 3F 21H
```

Therefore the system exclusive message should be sent is;

```
F0   41   10   00 10      11      10 00 00 00     00 00 3F 21     ??        F7
(1)  (2)  (3)  (4)        (5)     address         data           checksum  (6)
```

(1) Exclusive Status,   (2) ID (Roland),   (3) Device ID (17),
(4) Model ID (XV-5080),   (5) Command ID (RQ1),   (6) End of Exclusive

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 00 10 11 10 00 00 00 00 00 3F 21 10 F7 to be transmitted.

<Example 4> Getting data (RQ1) at once;
Tempory Performance data,
Temporary Patch data of whole part in Performance mode,
Temporary Rhythm data of whole part in Performance mode.

cf.) This operation is the same as Data Transfer function in Utility mode with "PERFORM" (Type parameter) and "TEMP: +PATCH" (Source parameter) options.

According to the "Parameter Address Map (p. 290)", the start address of the above all parameters is assinged as following:

```
    10 00 00 00H       Temporary Performance
    11 20 00 00H       Temporary Patch (Performance Mode Part 1)
    11 30 00 00H       Temporary Rhythm (Performance Mode Part 1)
    :
    14 60 00 00H       Temporary Patch (Performance Mode Part 16)
    14 70 00 00H       Temporary Rhythm (Performance Mode Part 16)
```

The offset address of Rhythm is also assigned as follows:

```
    00 00 00H          Rhythm Common
    :
    00 10 00H          Rhythm Tone 1
    :
    01 3E 00H          Rhythm Tone 4
```

As the data size of Rhythm Tone is 00 00 01 41H, summation of the size and the start address of Tone 4 of Part 16 at Temporay Patch in Performance mode will be;

```
   14 70 00 00H
      01 3E 00H
+) 00 00 01 41H
   14 71 3F 41H
```

And the size that have to be got should be;

```
   14 71 3F 41H
-) 10 00 00 00H
   04 71 3F 41H
```

Therefore the system exclusive message should be sent is;

```
F0  41   10   00 10        11      10 00 00 00   04 71 3F 41   ??        F7
(1) (2)  (3)  (4)          (5)     address       data          checksum  (6)
```

(1) Exclusive Status,   (2) ID (Roland),   (3) Device ID (17),
(4) Model ID (XV-5080), (5) Command ID (RQ1),   (6) End of Exclusive

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 00 10 11 10 00 00 00 04 71 3F 41 7B F7 to be transmitted.

●The Scale Tune Feature (address: 40 1x 40)

The scale Tune feature allows you to finely adjust the individual pitch of the notes from C through B. Though the settings are made while working with one octave, the fine adjustments will affect all octaves. By making the appropriate Scale Tune settings, you can obtain a complete variety of tuning methods other than equal temperament. As examples, three possible types of scale setting are explained below.

❍Equal Temperament

This method of tuning divides the octave into 12 equal parts. It is currently the most widely used form of tuning, especially in occidental music. On the XV-5080, the default settings for the Scale Tune feature produce equal temperament.

❍Just Temperament (Tonic of C)

The principal triads resound much more beautifully than with equal temperament, but this benefit can only be obtained in one key. If transposed, the chords tend to become ambiguous. The example given involves settings for a key in which C is the keynote.

❍Arabian Scale

By altering the setting for Scale Tune, you can obtain a variety of other tunings suited for ethnic music. For example, the settings introduced below will set the unit to use the Arabian Scale.

Example Settings

Note name	Equal Temperament	Just Temperament (Keytone C)	Arabian Scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

The values in the table are given in cents. Refer to the explanation of Scale Tuning on page ??? to convert these values to hexadecimal, and transmit them as Exclusive data.
For example, to set the tune (C-B) of the Part1 Arabian Scale, send the following data:

F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 76 F7

●ASCII code table

Patch Name and Performance Name, etc, of MIDI data are described the ASCII code in the table below.

(HEX) = hexadecimal
(DEC) = decimal

Character	(HEX)	(DEC)	Character	(HEX)	(DEC)	Character	(HEX)	(DEC)
SP	20H	32	@	40H	64	`	20H	96
!	21H	33	A	41H	65	a	61H	97
"	22H	34	B	42H	66	b	62H	98
#	23H	35	C	43H	67	c	63H	99
$	24H	36	D	44H	68	d	64H	100
%	25H	37	E	45H	69	e	65H	101
&	26H	38	F	46H	70	f	66H	102
'	27H	39	G	47H	71	g	67H	103
(	28H	40	H	48H	72	h	68H	104
)	29H	41	I	49H	73	i	69H	105
*	2AH	42	J	4AH	74	j	6AH	106
+	2BH	43	K	4BH	75	k	6BH	107
,	2CH	44	L	4CH	76	l	6CH	108
-	2DH	45	M	4DH	77	m	6DH	109
.	2EH	46	N	4EH	78	n	6EH	110
/	2FH	47	O	4FH	79	o	6FH	111
0	30H	48	P	50H	80	p	70H	112
1	31H	49	Q	51H	81	q	71H	113
2	32H	50	R	52H	82	r	72H	114
3	33H	51	S	53H	83	s	73H	115
4	34H	52	T	54H	84	t	74H	116
5	35H	53	U	55H	85	u	75H	117
6	36H	54	V	56H	86	v	76H	118
7	37H	55	W	57H	87	w	77H	119
8	38H	56	X	58H	88	x	78H	120
9	39H	57	Y	59H	89	y	79H	121
:	3AH	58	Z	5AH	90	z	7AH	122
;	3BH	59	[	5BH	91	{	7BH	123
<	3CH	60	\	5CH	92			7CH	124
=	3DH	61	]	5CH	93	}	7CH	125
>	3EH	62	^	5CH	94			
?	3FH	63	_	5CH	95			

NOTE : "SP" is space.

*GS ( ) is a registered trademark of Roland Corporation.

MIDI Implementation Chart

	Function...	Transmitted	Recognized	Remarks
Basic Channel	Default	X	1–16	
	Changed	X	1–16	
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M = 1)	* 2
	Altered	**************		
Note Number :		X	0–127	
	True Voice	**************	0–127	
Velocity	Note On	X	O	
	Note Off	X	O	
After Touch	Key's	X	O *1	
	Channel's	O *7	O *1	
Pitch Bend		O *7	O *1	
Control Change	0, 32	O *4	O *1	Bank select
	1	O *7	O *1	Modulation
	2	O *7	O	Breath type
	4	O *7	O	Foot type
	5	O *4	O	Portamento time
	6, 38	O *4	O	Data entry
	7	O *4, *7	O *1	Volume
	10	O *4, *7	O *1	Panpot
	11	X	O *1	Expression
	64	X	O *1	Hold 1
	65	O *4	O	Portamento
	66	X	O	Sostenuto
	67	X	O	Soft
	68	X	O	Legato Foot Switch
	69	X	O	Hold 2
	71	O *4	O	Resonance
	72	O *4	O	Release Time
	73	O *4	O	Attack Time
	74	O *4	O	Cutoff
	75	O *4	O *6	Decay Time
	76	O *4	O *6	Vibrato Rate
	77	O *4	O *6	Vibrato Depth
	78	O *4	O *6	Vibrato Delay
	80	X	O (Tone 1 Level)	General Purpose Controller 5
	81	X	O (Tone 2 Level)	General Purpose Controller 6
	82	X	O (Tone 3 Level)	General Purpose Controller 7
	83	X	O (Tone 4 Level)	General Purpose Controller 8
	84	X	O	Portamento control
	91	O *4	O (Reverb)	General purpose effects 1
	93	O *4	O (Chorus)	General purpose effects 3
	1–5, 7–31, 64–95 *3	X	O	CC1, 2 (General purpose controller 1, 2)
	1–5, 7–31, 64–95 *3	X	O	CC3, 4 (General purpose controller 3, 4)
	98, 99	X	X	NRPN LSB, MSB
	100, 101	O *4	O	RPN LSB, MSB
Program Change		O *4	O *1	
	: True Number	**************	0–127	Program No. 1–128
System Exclusive		O *5	O *1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	*1	
	: Commands	X	X	
Aux Messages	: All Sound Off	X	O (120, 126, 127)	
	: Reset All Controllers	X	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123–127)	
	: Active Sensing	O *1	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1. * 3 Can be changed settings. * 4 Transmits when GM Data Transfer is excuted .	* 5 Transmits when Data Transfer is excuted or RQ1 received. * 6 GM Mode only. * 7 Transmits when Part Information value changed.	

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

Specifications

XV-5080 128 voice sound module
GM Level 2 system Compatible

● Parts
32

● Maximum Polyphony
128 voices

● Wave memory
64MB (16-bit linear format)

● Expansion slots
Wave Expansion Board SR-JV80 Series: 4slots
New Wave Expansion Board SRX Series: 4slots
Two SIMM Slots (Compatible with 72-pin FP/EDO 16/32/64 MB SIMMs for a maximum expansion of 128 MB)

● Preset memory
Patch: 896 (128 x 7 banks) + GM Level 2 Patch: 256
Performance: 64 (32 x 2 banks)
Rhythm Sets: 14 (2 x 7 banks) + GMLevel 2 Rhythm Set: 9

● User memory
Patch: 128
Performance: 64
Rhythm Set: 4

● External memory
SmartMedia card   1slot
(2 - 128 MB, 5 or 3.3 V)

● Effects
Multi Effects (MFX):   90 type
(Three different multi-effects can be used simultaneously in Performance mode)
Reverb: 4 type
Chorus: 2 type
2 Band EQ (can be sent to eight separate outputs when used as system EQ)

● Display
320 x 80 dot Graphic LCD (with Backlit)

● Connectors
A (MIX) Output (L(MONO), R)
B Output (L, R)
C Output (L, R)
D Output (L, R)
(or Individual 1 - 8)
Digital Audio Out S/P DIF 44.1/48kHz
(COAXIAL 1, OPTICAL 1)
Word Clock In (BNC)
SCSI Connector (D-SUB 25pin)
R-BUS Connector (Output Only)
MIDI connector (IN, OUT, THRU)
Phones Jack (Stereo)

● Power supply
AC117, 230, 240 V

● Power Consumption
25 W

● Dimensions
482 (W) x 281 (D) x 88 (H) mm
19 (W) x 11-1/16 (D) x 3-1/2 (H) inches
(EIA-2U rack mount type)

● Weight
4.9 kg / 10lbs 13oz

● Accessories
Quickstart manual
Owner's manual
Q&A, Sound List
Power cord

● Options
Wave Expansion Board (SRX series, SR-JV80 series)

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

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Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

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EGYPT
Al Fanny Trading Office
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25 Rue Jules Hermann,
Chaudron - BP79 97 491
Ste Clotilde Cedex,
REUNION ISLAND
TEL: (0262) 218-429

SOUTH AFRICA
**That Other Music Shop
(PTY) Ltd.**
11 Melle St., Braamfontein,
Johannesbourg, SOUTH AFRICA

P.O.Box 32918, Braamfontein 2017
Johannesbourg, SOUTH AFRICA
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.
17 Werdmuller Centre,
Main Road, Claremont 7708
SOUTH AFRICA

P.O.BOX 23032, Claremont 7735,
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TEL: (021) 674 4030

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Co.,Ltd.**
5F. No.1500 Pingliang Road
Shanghai, CHINA
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10F. No.18 Anhuaxili
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Service Division**
22-32 Pun Shan Street, Tsuen
Wan, New Territories,
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Moses Road, Mumbai-400011,
INDIA
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PT Citra IntiRama
J1. Cideng Timur No. 15J-150
Jakarta Pusat
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Seocho Ku, Seoul, KOREA
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MEXICO
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VENEZUELA
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Siemensstrasse 4, P.O. Box 74,
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DENMARK
TEL: (039)16 6200

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4, Rue Paul Henri SPAAK,
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TEL: 01 600 73 500

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GERMANY
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HUNGARY
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H-2046 Torokbalint, HUNGARY
TEL: (23) 511011

IRELAND
Roland Ireland
Audio House, Belmont Court,
Donnybrook, Dublin 4.
Republic of IRELAND
TEL: (01) 2603501

ITALY
Roland Italy S. p. A.
Viale delle Industrie 8,
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TEL: (02) 937-78300

NORWAY
**Roland Scandinavia Avd.
Kontor Norge**
Lilleakerveien 2 Postboks 95
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NORWAY
TEL: 273 0074

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**Tecnologias Musica e Audio,
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TEL: (061) 927-8383

UKRAINE
TIC-TAC
Mira Str. 19/108
P.O. Box 180
295400 Munkachevo, UKRAINE
TEL: (03131) 414-40

UNITED KINGDOM
Roland (U.K.) Ltd.
Atlantic Close, Swansea
Enterprise Park, SWANSEA
SA7 9FJ,
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TEL: (01792) 700139

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U.A.E.
**Zak Electronics & Musical
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Zabeel Road, Al Sherooq Bldg.,
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TEL: (04) 3360715

NORTH AMERICA

CANADA
**Roland Canada Music Ltd.
(Head Office)**
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (604) 270 6626

**Roland Canada Music Ltd.
(Toronto Office)**
170 Admiral Boulevard
Mississauga On L5T 2N6
CANADA
TEL: (905) 362 9707

U. S. A.
Roland Corporation U.S.
5100 S. Eastern Avenue
Los Angeles, CA 90040-2938,
U. S. A.
TEL: (323) 890 3700

As of June 1, 2002 (Roland)

Roland Corporation